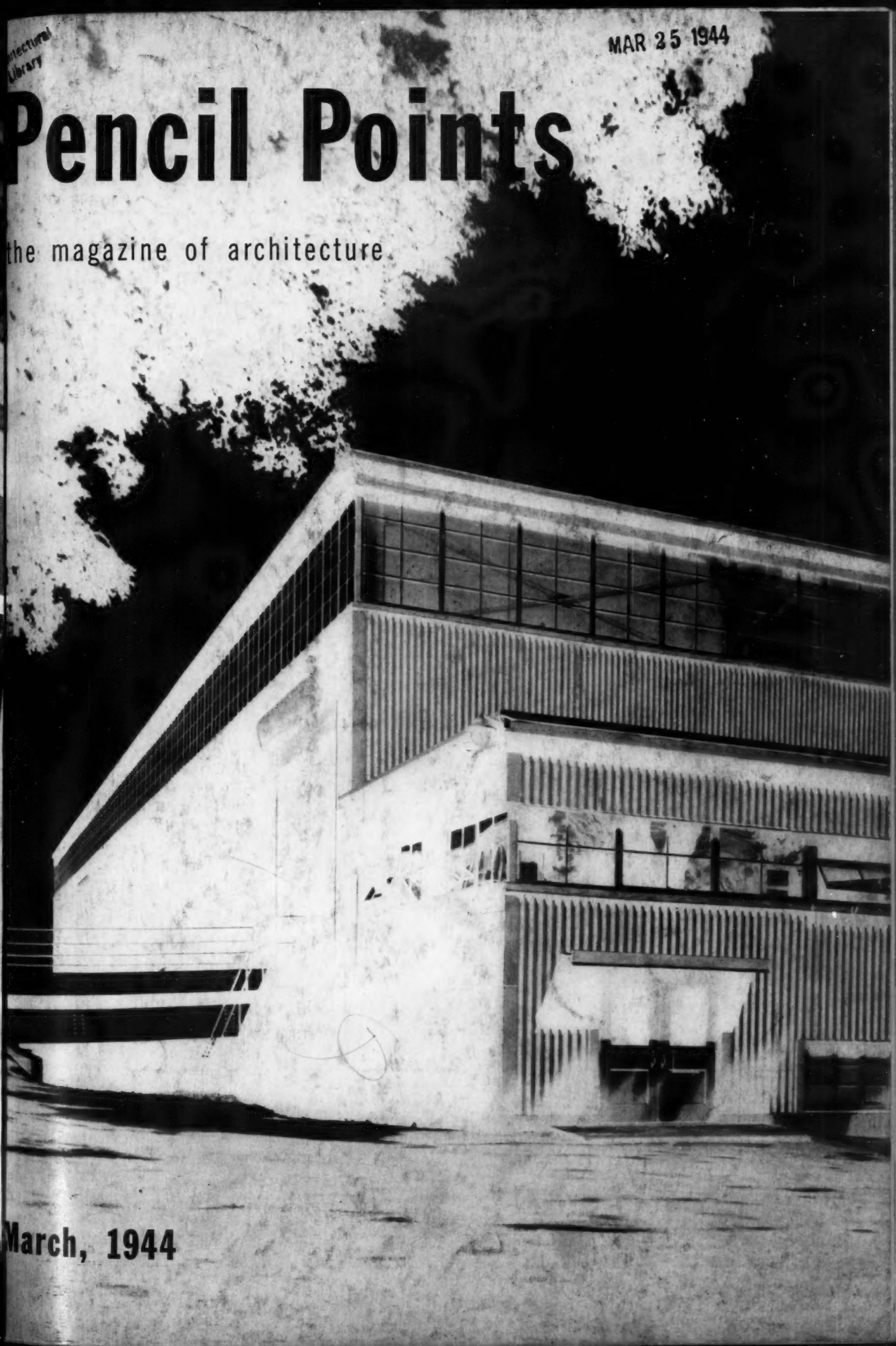
itectural
Library

MAR 25 1944

Pencil Points

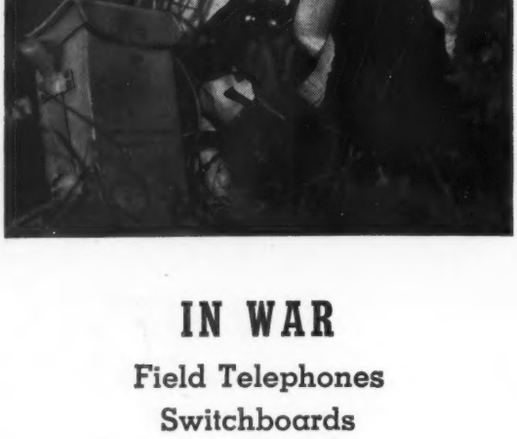
the magazine of architecture

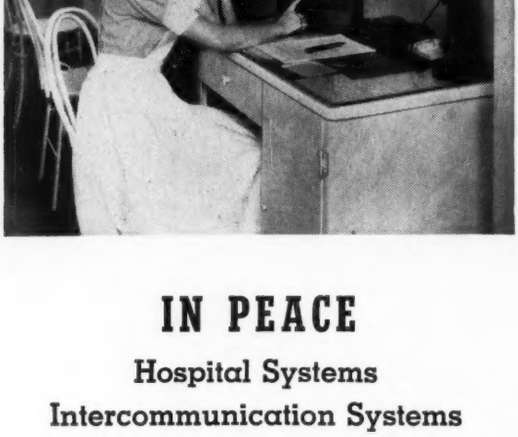


March, 1944

References Required

● Wherever men fight for the cause of freedom, "Connecticut" communications and aircraft ignition products are helping them win. When the boys come home and peacetime competition returns, ask their opinion of the products we make. They are our references.





IN WAR

Field Telephones
Switchboards
Radio Headsets
Aircraft Ignition Components

IN PEACE

Hospital Systems
Intercommunication Systems
Industrial Control Devices
Precision Electrical Equipment

ARMY E NAVY

Connecticut Telephone & Electric Division,

MERIDEN GREAT AMERICAN INDUSTRIES INC. CONNECTICUT

© 1944 Great American Industries, Inc., Meriden, Conn.

U.S.A. Ralph Reinhold, President and Treasurer; H. Burton Lowe, Vice President and Secretary; Philip H. Hubbard, Vice President; Francis Turner, Vice President; Gilbert E. Cochran, Vice President; William P. Winsor, Vice President. Executive and editorial offices: 330 West 42nd St., New York 18, N. Y. Subscriptions payable in advance; year, $3.00; 2 years, $5.00 in U. S. and Possessions, Canada, Cuba, Mexico, Central and South America; ...tion on occupation, change of address, etc., submitted will be carefully considered; include both old and new address. Articles, drawings, photographs, etc., submitted will be carefully considered, but the publisher will not be responsible for loss or damage. Copyright 1944, Reinhold Publishing Corp. Trade Mark Registered. All rights reserved. Entered as second class matter, July 8, 1941, at the Post Office, New

Pencil Points

the magazine of architecture

March, 1944

Views: Letters; *Education for Architecture*, from a talk by William Wilson Wurster, A.I.A.; Sir Ernest Simon on *Planning and Building in the U. S. A.*; more *Architects at War;* Notices, Data Wanted . . . . . beginning on page **8**

News: Men and activities in the field of architecture; *Products Progress* . . . . . beginning on page **13**

Reviews: Books, periodicals, bibliographies; *Manufacturers' Literature* . . . . . beginning on page **28**

Say What You Mean: Editorial, by Kenneth Reid **35**

Machine Shop and Assembly Building for a War Plant in Maine: Alonzo J. Harriman, Architect-Engineer **36**

Perspectives: Practical Idealist from the Pine Tree State: Alonzo J. Harriman **39**

Expanded Facilities for Iron Works in Maine: Alonzo J. Harriman, Architect-Engineer **41**

Aircraft-Engine Assembly Plant: Albert Kahn, Associated Architects and Engineers, Inc. **46**

Plant for Walter Kidde Constructors, Inc.: J. Floyd Yewell, Architect **50**

Plant Offices and Laboratory, Plattsburg, N. Y.: Francis W. Roudebush, Hugh McDonald Martin, Architects **52**

Industrial Lighting Practice: by Cecil I. Cady, Engineer, of the firm of Voorhees, Walker, Foley, and Smith **56**

Private Bath House, California: William Wilson Wurster, A.I.A., Architect; Thomas D. Church, Landscape Architect **62**

Poolside Shelter, Saratoga, California: William Wilson Wurster, A.I.A., Architect; Thomas D. Church, Landscape Architect **64**

Planning Is Politics, But Are Planners Politicians? by Catherine Bauer **66**

House and Studio Workshop, Southern California: Raphael S. Soriano **71**

Design for Prefabrication: Some Personal Observations, by Carroll A. Towne, Chief, Division of Recreation and Public Grounds, Department of Regional Studies, TVA **74**

Demountable Houses, Smith Creek Village, Apalachia Dam, TVA: Roland Wank, A.I.A., Head Architect **77**

Selected Details **79**

Cover: From a photograph by Ezra Stoller of a war plant designed by Alonzo J. Harriman.

Editor-in-Chief: Kenneth Reid

Editors: Frank G. Lopez (Managing)
George A. Sanderson

Technical Editor: Don Graf

Production Editor: Olga Gueft

Drafting: George Cooper Rudolph

Typography: John Ciampi

Publishing Director: Phillip H. Hubbard

Business Manager: John G. Belcher

Circulation Manager: John Zellner

U.S.A. Ralph Reinhold, President and Treasurer; H. Burton Lowe, Vice President and Secretary; Phillip H. Hubbard, Vice President; Francis Turner, Vice President; Gilbert E. Cochran, Vice President; William P. Winsor, Vice President. Executive and editorial offices: 330 West 42nd St., New York 18, N. Y. Subscriptions payable in advance: 1 year, $3.00; 2 years, $5.00 in U. S. and Possessions, Canada, Cuba, Mexico, Central and South America; 1 year, $5.00 in all other countries. Single copies, $1.00. Remittances must be by International or American Ex-

cession or acquisition. Changes of address, manuscripts, drawings, photographs, etc. submitted will be carefully considered, but the publisher will not be responsible for loss or damage. Copyright 1944, Reinhold Publishing Corp. Trade Mark Registered. All rights reserved.

Entered as second class matter, July 8, 1941, at the Post Office, New York, N. Y., under the Act of March 3, 1879. Volume XXV No. 3, March, 1944. Indexed in Art Index.

A Message Today

"These times have certainly taught us the value of copper and brass"

"When John and I built our home back in 1935, thank goodness we didn't skimp on tried-and-true materials like brass pipe plumbing and copper gutters. Our home has been a joy, especially during this war period when it's been so hard to replace things."

"John says our copper gutters and leaders and chimney flashing are still as good as new. We haven't spent a nickel on upkeep, except for clearing out leaves. And I can vouch for the way bronze screens last—ours are still in *excellent* condition."

"And now, we are thinking of building a new home when the war's over—one with a little more ground. We're collecting ideas and laying aside war bonds. One thing sure—there's going to be plenty of copper and brass used. After all, the upkeep we've saved helped pay for plenty of our bonds."

"Just take plumbing—something a housewife lives with 24 hours a day. We've never had a worry with our brass pipes . . . no rust-clogging . . . no rusty-red water. I can't help but realize how fortunate we are when I compare our experience with the Ralston's next door who have had so *much* trouble with rust."

When the red metal gets the green light . . .

Today war needs get first call on all production of copper and copper alloys. But with victory, Anaconda Copper, Brass and Bronze in many forms of usefulness and durability will be waiting for architects and builders. The same type of research that pioneered brass pipe plumbing, that paved the way for low-cost copper tubing, is carrying on now to serve postwar home owners.

LOOK HOW FAR A WAR BOND WILL GO IN MAKING YOUR HOME RUSTPROOF!

In building an average 6 or 7 room house, a one-hundred dollar bond will more than cover the extra cost of:

COPPER tubes for both hot and cold water pipes.

COPPER gutters and leaders.

COPPER flashing around chimney.

BRONZE screens for all windows and doors.

What better investment for one of your bonds? Save today to make your postwar home rustproof.

THE AMERICAN BRASS COMPANY
General Offices: Waterbury 88, Connecticut
Subsidiary of Anaconda Copper Mining Company
In Canada: ANACONDA AMERICAN BRASS LTD., *New Toronto, Ont.*

ANACONDA

Anaconda Copper & Brass

It's Easy

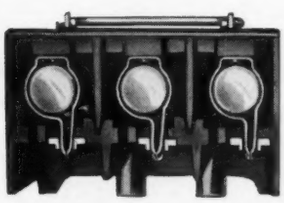
to slip in the fuses– but they're *clamped tight* for perfect contact . . .

Fuse clamp switch blades open slightly when fuse is inserted. This results in a tight clamping contact when fuse clamp switch blades are inserted in switch contact slots.

Fuses slide easily and quickly into place. No adjustment necessary

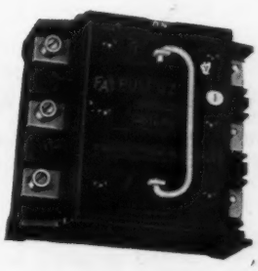
The (FA) PULFUZSWITCH

insures against loose contacts and resultant overheating . . . The fuse-holding switch blades are so designed that the placing of the fuse carrier into the ON position of the switch automatically *clamps the fuses tight* . . . At the same time, the switch blades make *pressure contact* with the fixed switch parts, insuring full current carrying capacity. . . . These photographs show how this is accomplished.



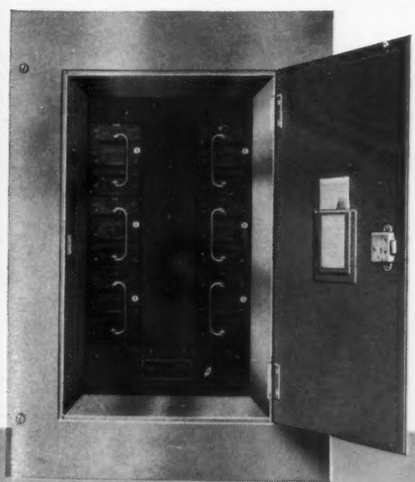
Note how fuse clamp switch blades, in ON position, make pressure contact with switch contact slots in the base. This draws the tips of the switch blades together, and pulls fuse clamps tightly around fuse ferrule. Contact parts are silver plated, for low resistance and long life. Bakelite barriers isolate each fuse in an individual compartment.

Each unit is equipped with (FA) solderless type pressure connectors; visible ON and OFF indicators; ventilating holes in fuse carrier; contacts for bus or cable integral with contact slot member, and pull handle for reversing switch.



(FA) PULFUZSWITCH units are made in 30, 60 and 100 ampere capacities, for 250 volts or less; also 30 and 60 ampere, 600 volts. They are assembled into panelboards (with either single or double row of branches) for all types of feeder systems. 60 ampere branches are convertible to 30 ampere—a desirable convenience for heat and power service.

Boxes are of galvanized steel. Wide gutters and (FA) Pressure type (Solderless) Connectors expedite wiring. Fronts are rust-proofed, and attractively finished in pearl gray. Available for both surface and flush mounting . . . For further information, write Frank Adam Electric Company, Box 357, St. Louis, Mo.



(FA) Pulfuzswitch Panelboard, double branch, with 60 amp. 3 pole branches.

EST. 1891
THE SIGN OF A (FA) BETTER JOB
Frank Adam
ELECTRICAL PRODUCTS
for War Industry
FRANK ADAM ELECTRIC CO.
ST. LOUIS, MO. U.S.A.

Views

Opinions from readers

Remarks from the editors

Data wanted

Changes of address

"Education for Architecture," excerpts from a talk by William Wilson Wurster, A.I.A., at the 75th birthday dinner of the New York Chapter, A.I.A., Feb. 17, 1944.

Proper architectural training, Mr. Wurster feels, is a lifelong process, including formal schooling, travel, practice, adult education, and professional organization. After briefly summing up his own experience, his busy California practice, and his decision to use a portion of the war years to go back to school himself, he sharpens each of the five major points, relates them to one another, and comes up with many provocative suggestions. On the last category — professional organization — he delivers an ungloved haymaker which should bring cheers from the bleachers, sneers from the ivory towers.

School

In formal schooling, Mr. Wurster recommends the basic approach of encouragement of the average individual, "training for a high level of competency for everyone—a *group* high level, rather than the "Great Man theory."

Training should start with the specific and proceed to the general, he feels.

The student should begin with "the details of construction, estimates of cost, and the drawing board problems in architecture . . . he will awake one day with the desire and need for allied things—history, economics, government, geography, and the like." In the last year of school, Wurster suggests "no drawing whatever, that all the time be devoted to seeing the relationship of architecture to other basic forms."

Furthermore, he thinks that a school should undergo "constant self examination to see that the teaching staff doesn't become a haven for timid spirits . . . A wind should blow through the schools often, clearing out, before the weak have the claim of long service." If this sounds ruthless, Mr. Wurster nevertheless contends that this is better than "shattering the idealism of many, many students."

Underlining his great interest in encouraging the newcomer, Wurster suggests that "every architect should make an effort to bridge the gap between school and practice. He should see to it that some young student feels at home in his office and try to think up a system for beginners which takes in a new person each year."

Travel

In contrast with the sentimental, copybook journeys which architects (Mr. Wurster included) used to make to Europe, he instances "the young architects who come to the United States from South America and China (and) find our architects pretty thin stuff." In visiting TVA, he points out, these men "astound the administration by asking to see the rural electrification bureau and the soil erosion bureau, and they consider the phase of 'design' as only one of many . . .

"Today the architect's meat and drink must be the whole field of human environment and the entire process behind it—or he will starve."

Practice

"It is wonderful," Mr. Wurster says, "to find the importance of a job becoming more and more measured by the quality of the client-architect relationship rather than by the size of the work . . . When this happens, there is an increasing possibility of small jobs coming to the architect which will mean touching a great pool of work which older architectural standards disdained."

From this, he feels, can arise—and on the Coast, has arisen—a vernacular type of architecture, which is "a matter of growth, not of predetermination . . . In Sweden, this viewpoint leads to the high level, almost anonymous design of even the most common things —housing, parks, street engineering, and pots and pans."

To assist the young men coming along in their knowledge of the art of architecture, Mr. Wurster urges that the offices where they are employed should be "places of hope." To retain such a spirit, he recommends that the boss allow the potential architect in each draftsman to look to the time when he will have his own office. "This means permission for each draftsman to have jobs of his own and freedom of use of all the facilities and knowledge of the office in order to help him carry them out. The office will suffer at times, but that is small debit, compared to the lift it brings."

Adult Education

When Mr. Wurster decided to come East to study, having just finished 5,000 war houses, many colleagues questioned his judgment: "What can they teach you in planning? We architects know all the basic things; just a matter of common sense to put them into practice. What will you get out of it? I don't think you will be able to go back to studying."

Having now been back to school, Wurster has the answers: "After a year of reading on the basic concepts of tax structure, fiscal policy and in the field of administrative process, where there is a constant discussion as to criteria and responsibility, I am sure no person trained mainly in design has any idea of the important data which must precede—and this before 'architecture' can begin." What has he gotten out of it? "Richness, understanding, breadth, doors open into hitherto unknown fields . . . these are part of the answer."

One of the most important aspects of adult education, in Mr. Wurster's opinion, is "the breaking down of barriers between the professions." Granting that knowledge can't be limitless, he urges at least "a glimpse into other areas so that you do know the importance and difficulties of the economist, geographer, public official and the teacher."

Wurster's own recent and stimulating experience in returning to the classroom makes him keenly aware that "all around us, there are courses and meetings with which the A.I.A. should have a tie," matters that are essential to the architect, if he plans to have any hand in the planning process in the future.

And what, Mr. Wurster asks, is the A.I.A. doing about such matters?

Professional Organization

On the part that A.I.A. is playing in education for architecture, "I speak with great earnestness and with little pleasure.

"At every turn I hear the young people speak with dissatisfaction of the A.I.A. —how moribund it is—how reactionary —how it clings to old husks and outworn forms. And I agree with them and go a step further, as is always the privilege of a member; and feel that things are very wrong indeed. You may answer me and show me charts and laws which look well on paper but the truth is still the same—the *essence* of our organization is not generous and big.

"Now I believe in one organization and I have belonged to the A.I.A. since 1927 and I intend to stay a member but I do know that things must happen differently in the future or we will continue in our diminishing importance. It is all too easy to attack without constructive suggestions, so let me list some very specific things which I think should receive consideration.

"No gold medal for his contribution to architecture has been offered by the Institute to Frank Lloyd Wright. Whether he would accept it or not is of small importance; whether you agree with him, his political life, or his personal life is also of small importance. But we, as an organization, ought to be large enough to take the generous action. I made inquiry of this by letter, and the answer was so niggling as to the exact procedure that there was no point in going further.

"We talk about the fact that the public doesn't know of us, our abilities, our competence, our services. Very well then, why not meet it in a modern way? Years ago the household word for an ogre was John D. Rockefeller but this was changed to one of benefaction by one Ivy Lee who knew just how to place his client before the public. The A.I.A. has some 3000 members and I would be happy to be one of the 3000 to pay $10 per year—total $30,000—for a really top-notch public relations agency. There must be a positive, progressive program to publicity.

"Are we sure we want to stick by the fact that we ethically can't give our clients a complete building service? I personally have liked keeping the design separate from the construction but I wonder how a man like Albert Kahn really approached the problem. I know of several people in the West who do a fine job of combining them.

(Continued on page 10)

FOR THE CARGO TO BE LOADED TOMORROW

In order to establish a world-wide balance of economic security and stabilization, America must help prepare the way for foreign governments to open their doors to a universal interchange of products and ideas.

Today is the time for us to look beyond the horizon and lay solid plans for building ports, piers, docks, jetties, harbor improvements and other post-war developments. These are the constructions which will need firm foundations for sponsoring new industries... new communities... new friendships in the world of tomorrow.

The ability of the Raymond organization to fulfill completely the obligation it assumes is a recognized fact the world over. For 47 years owners, architects and engineers who want difficult work done exactly right have formed the habit of seeking Raymond again and again. Write, wire, cable or phone for a competent Raymond engineer to discuss your project with you.

RAYMOND
CONCRETE PILE COMPANY

Branch Offices in Principal Cities

140 CEDAR STREET · NEW YORK 6, N. Y.

SCOPE OF RAYMOND'S ACTIVITIES includes every recognized type of pile foundation – concrete, composite, precast, steel, pipe and wood. Also caissons, construction involving shore protection, ship building facilities, harbor and river improvements and borings for soil investigation.

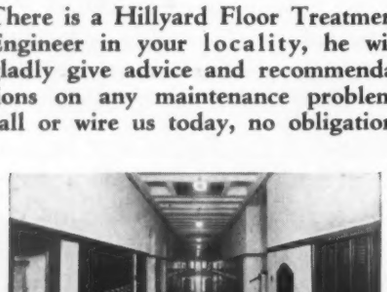
Architects SPECIFY

Hillyard Products *because*

Hillyard's Floor Seals, Finishes and Treatments properly protect and prolong the life of all types of floors. Floors stay cleaner, look better and last longer. Many leading flooring manufacturers and contractors approve Hillyard Products because they have given and are giving entire satisfaction in uniformity, dependability and economy.

☆ ☆ ☆ ☆

There is a Hillyard Floor Treatment Engineer in your locality, he will gladly give advice and recommendations on any maintenance problem, call or wire us today, no obligation.



See Hillyard Specifications in Sweets 1944 Catalog. Sec. 13 page 58.

CONSERVATION FOR THE NATION

Send for Specification Cards. FREE for the asking.

THE HILLYARD COMPANY

DISTRIBUTORS

Hillyard Chemical Co.... St. Joseph, Mo.

Views

(Continued from page 8)

"Why have we let the leadership be wrested away from us by the lawyers and public administrators? The answer is that we have no great liberal leaders at the top of our profession. For this same reason we have no one who can ably represent our needs both esthetically and financially.

"Why isn't the A.I.A. geared to the great municipal and governmental groups which center at Chicago? There has and is being done brilliant work in the field of all manner of reforms—American Society of Planning Officials—National Association of Housing Officials—research of all kinds going on. Why aren't our conventions held in conjunction with theirs? Why haven't we a desk at least in Chicago?

"We should look into this piling up of state-registration rules. What is happening is that the younger men are being kept out, and I fail to see any raising of the standard of architecture by the present systems. In California it has raised the average registered architect's age to over 50 years. Why shouldn't we have a way of encouraging the young men by giving them licenses with a simple registration? If you want to stiffen the examination for structural work—well and good. But why burden every architect with technical, finite formulae which he will never use? I'll warrant that you are all like me and have never designed a beam in your life. God help the public if I did! Far better that we know *where* to go to have it properly designed.

"Why are conferences and discussion groups springing up all over the country quite separate from the fabric of the A.I.A.? The answer is that they feel the cold, unsympathetic quality of our organization. Often they would be strengthened by having the use of the facilities of the A.I.A.; in turn the A.I.A. would have the vitality of this group.

"Look over all the pamphlets coming out of England, the plan for London and the positive housing programs and compare them with our A.I.A.'s Postwar Reconstruction Committee's report.

"Let me refresh your mind as to the wording of some of this report. 'We have copied the housing of European nations whose political principles have been the denial of the rights to worship according to the desires of the individual and the loss of freedom of speech and the entire subjugation of the citizens to the state.'

"Sanitary, good housing, for people. Why bring up religion as above unless you are trying to do some indirect slurring?

" 'These nations are decadent and have seriously retarded the advance of civilization. These socialistic theories of Europe have gone so far as to regiment their people, not only in an economic

(Continued on page 91)

FLOORS that help REDUCE WASTE

Light-Reflecting Floors made with Atlas White cement help employees do better work

Much waste due to accidents—errors—spoilage—loss of time and manpower—can be reduced or eliminated by better seeing. And a new aid to lighting systems is available—Light-Reflecting Floors made with Atlas White portland cement instead of with normal gray portland cement.

Such floors reflect light rather than absorb it—make existing lighting systems much more efficient. They reduce shadows and, being close to work areas, put more light where it is needed. Installations already made in several of the country's largest plants have demonstrated the value of these white-cement floors by test and by experience.

Light-Reflecting Floors made with white instead of gray cement fit into modernization and conversion programs as well as new structures. An interesting book, "Light From Floors," tells the entire story of development, testing, use and cost. For your copy, write to Atlas White Bureau, Universal Atlas Cement Company (United States Steel Corporation Subsidiary), Chrysler Building, New York 17, New York.

HOW ABOUT MAINTENANCE?

Experience shows white-cement floors are easy to clean, easy to keep clean, and retain their reflection advantage. Maintenance is simple—frequent sweeping, occasional damp mopping, periodic scrubbing.

NP-F-26

ATLAS WHITE CEMENT

For Light-Reflecting Floors

Housing Notes: NHA, through Commissioner Emmerich of FPHA, has announced readiness to consider offers to buy any of 25 housing projects located in 13 states and the D. C. area. These comprise 2,811 houses, 5,617 apartments, and accomodations for 2,624 single men and women. Occupants are to have first chance to buy or rent, and war workers will have preference; beyond that, there are no restrictions as to who may buy. Agreement must be made to confine occupancy to war workers for the duration.

PAW is aiding petroleum workers to obtain priorities assistance for housing construction on their own account, Ralph K. Davies, Deputy Administrator, announces. NHA has put forth a simplified procedure for obtaining authorization to construct privately financed housing, and permits use of additional materials if these conserve lumber and fuel.

FPHA has put into effect new policies designed to increase revenue local municipalities derive from war housing, Commissioner Herbert Emmerich has announced. These take the form of increased payments in lieu of taxes on projects not Federally owned, and expediting payments on Federally owned developments. Locally owned public projects can increase payments if such payments do not, in net effect, reduce the required local subsidy.

Region II of FPHA announces, through J. H. Kervick, new regional director, that the goal for the region (Penna., N. Y., N. J.) is nearly met. Total investment in housing in this region exceeds $365 millions in providing housing and community facilities for 272,000 persons. Of these, about 108,000 are in slum-clearance, low-rent projects, the balance in war housing. Kervick reports that, of war housing, 96 percent of the dwelling units provided are family housing, only 4 per cent stop-gap, such as dormitories or trailers. Approximately a quarter of the family units are temporary, for removal after the war, 21 percent slum-clearance projects converted to war housing and due to revert to their original status with the war's end. Kervick believes that the construction phase is about over in his region, with management the big job from now on.

WMC and Selective Service are cooperating on the problem of placing returned veterans in civilian employment, a joint statement announces. The job has been split into two parts. Veterans who want their old jobs back apply to General Hershey's Veterans Personnel Division (formerly Re-employment Division.) Veterans who want new jobs apply to McNutt's Veterans Employment Service. Both have nation-wide offices, and we understand test runs are now being made in some centers. Granted that the two types of problems have differences, it seems like another bureau upon-bureau, Pelion-upon-Ossa-fied sort of procedure.

Postwar house market: Another survey, this time by the U. S. Chamber of Commerce, indicates that over a million and a half people have recently said they would build or buy homes after the war, whereas only approximately a million said so a year ago. We don't know who's going to hold these people to their promises, but here are the Chamber's figures: 23% say they will spend less than $3,000; 27% 3 to 5 thousand; 18% up to $10,000; 12% more than $10,000; and a cagey 20% won't say how much. The Chamber expects a housebuilding boom amounting to at least 7 billion 184 million 8 hundred thousand dollars. (We have spelled the total out to make it more comprehensible, but now we're not sure we've succeeded. Anyhow the future looks brighter for postwar house designers.)

The National Committee on the Housing Emergency held its national conference on postwar housing March 8, 9, 10 at the Hotel Drake, in Chicago. Scheduled subjects included city redevelopment, government in housing finance, and building practices. John B. Blanford, Jr., Administrator of NHA, was expected to speak at the opening luncheon. Henry J. Kaiser and Beardsley Ruml were listed as evening speakers; and Ira S. Robbins, Acting Housing Commissioner, N. Y. State; Catherine Bauer, author of "Modern Housing," Walter Reuther, U. A. W. vice president; John C. Taylor, Jr. of American Homes, Inc.; Robert L. Davison of the Pierce Foundation; and Dr. Ernest Fisher of the American Bankers Association were among the other scheduled speakers.

News

Design and construction

Developments afield

Building Regulations

Related Professions

Products Progress

Real estate interests' proposal of rent certificates to supplant the Federal slum clearance housing program is called the slum dole by Charles Abrams, who is a member of the faculty of the New School for Social Research, a Director of the Citizens' Housing Council of N. Y., and a consultant to FPHA. He states that the "new snake-oil being peddled as a specific for housing ills" is inadequately presented, so that no one can tell whether it encompasses rent-relief payments, a differential rent to be paid for quarters in private, public, or rehabilitated projects, or a grant to enable slum dwellers to find better housing themselves, if they can. He believes that if the plan is simply to pay slum dwellers the differential necessary to rent a decent dwelling, the cost will be tremendous and will result in temporary patching up of inadequate housing, not construction of quarters designed to be and remain satisfactory. "Slums would fill up and become profitable once more," he says.

D. Knickerbacker Boyd

We and the architectural profession have lost a faithful and stalwart friend. Dave (D. Knickerbacker) Boyd has died in Philadelphia. It is indicative of his character that he was stricken while he was hard at work, in the offices of the Independence Hall Association of which he was executive secretary. He was a sort of man who *would* die with his boots on, even though he had passed, by two years, the traditional three score and ten.

At the very outset of our acquaintance with the profession of architecture (in 1914) we became very much aware of D. Knickerbacker Boyd, whose name appeared regularly in the architectural magazines of that time as the author of a great number and variety of buildings. We did not meet him until some years later at an A.I.A. convention of the 20's. By that time his practice was no longer as extensive, but he had found another outlet for his boundless energy in working for the advancement of the architectural profession. From at least that far back right up to the time of his death he served the A.I.A. and other architectural organizations almost continuously and in many capacities. And into every job he undertook he threw the full enthusiasm of his generous nature.

Dave contributed frequently to this magazine and was a contributing editor on the subject of Public Relations during 1941. The development of better understanding by the public of the nature and value of architectural services was an objective to which he gave practically twenty-four-hour-a-day effort during the past ten years or more.

He was loved by his fellow architects of Philadelphia and by those elsewhere who got to know him well through his work on committees. Though the accomplishments of others may have been more spectacular, we know of no architect who has given of himself so unstintingly and so consistently through the years on behalf of the profession.

News

Availability of building products: Several releases by government agencies highlight the continuing stringent situation. WPB has just issued the eleventh "Material Substitution and Supply List," which shows an easing of copper and steel. The easing, however, applies to raw materials, not manufactured products or facilities or manpower to fabricate them. Copies may be obtained from regional WPB offices or from the Conservation Division, Room 2616, Temporary Building D, Washington 25, D. C.

Meanwhile, total construction activity for November, 1943, declined 13% from October to a $401,298,000 valuation, 2% under the scheduled total for November, according to WPB. WMC expects a further decrease in manpower available for construction in the first half of 1944. Reduction is expected to be 100,000, to a total of 700,000. To make things slightly easier, WPB announced a simplified procedure, usable after Feb. 15, for acquiring authorizations for agricultural, commercial, or industrial construction, and for obtaining materials once authorization is granted. Information can be obtained from WPB offices.

OPA has again entered the construction picture by making announcement of eligibility requirements for manufacturers of building materials who may apply for increases in ceiling prices. Principal safeguard to the ultimate consumer is a requirement that the purchaser be a middleman (dealer, supplier, contractor) who agrees in writing to absorb the increase, not pass it on to the retail buyer.

Northeastern softwood lumber (from the Ottawa Valley in Canada) has been allowed a $4 per 1000 board foot increase at the mill; there has been a flat 6% increase in mill ceilings for all graded hardwood lumber produced in the Northeastern United States and Eastern Canada; and a number of increases and decreases, OPA said, will result in a rise of less than 1% in average prices of all Southern pine lumber. WPB has stated that the lumber situation generally is so tight that civilian restrictions on its use cannot be relaxed. This is due to increased military activities and production substantially below estimated needs. In order to be able to make available limited supplies at points where they are most wanted, WPB has said that purchasers and producers of lumber should promptly notify the Lumber and Lumber Products Division, WPB, when authorized purchase orders are cancelled or cannot be shipped.

In the building equipment field, WPB has made procedural changes which simplify re-rating orders for electrical wiring devices and fuses, and has published a 50-page catalog of 30,690 new surplus steel valves for war contractors and others. Those who need such products are urged to contact the nearest WPB field office. In the case of wiring devices, these should be sold to retail customers without priority rating of any kind, WPB says.

Congress has gotten excited over the Pentagon Building's cost. On February 6 it was announced, members of three Congressional committees—Ways and Means, Military Affairs, Appropriations—demanded an investigation of construction costs of the Pentagon to ascertain why it cost $75 million instead of the $35 millions originally appropriated. No one has yet demanded an inquiry into its effect on the mental health of those who work in it.

The Neighbors *By George Clark*

"What's going to be so different about our postwar life? I notice all those house plans include sinks and washtubs!"

The Southern California Chapter, A.I.A., has furnished its members a preview of 1944 activity in fields of regional planning, post-war construction, architectural education, and other important subjects. Number one job, says Herbert Powell, is regional planning. The Chapter expects a great amount of public building construction after the war. Powell suggests that all is not well with current professional educational standards, that architects should study ways of making the small house field a satisfactory architectural sphere, and that "bureau" architecture can not produce public buildings as inspired as the Nebraska State Capitol or the Stockholm City Hall. He proposes thorough canvassing of these situations in an effort to arrive at solutions.

Competitive bidding practice revision is suggested by the Producers' Council. The "or-equal" clause has long been unsatisfactory to suppliers of building products, who claim that it is often impossible to ascertain whether or not an alternative product is actually the equal of the product originally specified. The proposal is to specify one product for each purpose, and to require a base bid on the products specified; however permission is to be given bidders to submit additional proposals for the use of alternative products provided quotations are given on the exact addition or subtraction from the basic bid for each alternative.

Advantages claimed by the Producers' Council include simplicity, knowledge of exactly what materials and equipment are to be employed, ease of accurate comparison of bids, elimination of arguments concerning materials to be used, protection of materials suppliers, encouragement of use of high quality products. At its last annual meeting the A.I.A. declared that specifications must be so written that competitive bidding could be based on identical materials and methods as far as practicable.

A Draftsman's Employment Committee has been established by the New Jersey Society of Architects, for architects now or about to be busy with postwar work in New Jersey. Men will also be needed in newly established city and town planing commissions. Many will be needed in the next two to six months, states the Committee, after municipal budgets for 1944 have been set up. The list will be made available to any architect having postwar work in New Jersey, whether or not he is a member of the societies who are establishing the Committee. For further information consult Charles F. Ackerman, Chairman of the Committee, whose office is at 105 Halsey Street, Newark, N. J.

New York's Borough of the Bronx is cheering its Mayor for going all out for postwar public works planning. The Bronx share of the city's billion dollar program is $200,000,000, exclusive of transportation, water supply, and quasi-public proposals, and would give employment to 40,000 persons for two years. On public view now are renderings of projects, including a civic center, airport, helicopter landing field (the borough isn't going to be outdone by Manhattan and its Garment Center), highways, a tunnel, bridges, waterways, and waterfronts. We have seen only a drawing of the proposed civic center, which looks pretty good and has a reflecting pool. You probably couldn't call that a waterfront development, though.

The N. Y. Chapter, A.I.A., and N. Y. City's Bureau of Architecture, are sponsoring 15 lectures at the Architectural League on hos-pital planning starting March 3. Lectures last from 5:45 to 7:15 P. M. on Fridays until June 9. There is a charge of 50 cents per lecture, payable either at the door or in advance, to cover costs. Isadore Rosenfield, Chief Architect for Hospitals of the city's Public Works department, is the principal lecturer.

Total shaded area shows maximum desirable area for expansion of Toronto, including urban and agricultural lands. Heavy lines show proposed superhighways and rapid transit.

Add Toronto, Canada, to the list of cities that are preparing postwar plans. Some time ago the City Council asked the City Planning Board to go into action. The results of the Board's studies are now being shown at the Toronto Art Gallery, in a three part exhibition—"Toronto—The Past, The Present, and The Future."

"The Past" shows appearance, area, housing conditions, zones, recreational facilities, transportation, and business activities during the past 150 years.

"The Present" shows population, topography, and living conditions today; it also shows what the Board believes to be the inadequacies of the city, which has three types of function to perform, (1) as a community where people live, work, and play; (2) as the capital of Ontario and a cultural center; (3) as an industrial and commercial city. The Board's report finds much of the city area obsolescent, many open spaces maldistributed, development indiscriminate, and architecture haphazard.

In "The Future," the Board presents its Master Plan which involves buying up areas to be rebuilt, demolition of many run-down or badly placed structures. Demolition and replanning are considered a job for the community as a whole, through a public planning agency. A public housing program for low income groups would also be considered the function of such an agency. However, much rebuilding could be undertaken by private enterprise.

A study of vital statistics and economic resources leads the Board to expect a population growth from the present 900,000 to about 1,500,000 within the next thirty years. Assuming that the present population density of Toronto's suburban areas is both desirable and likely to remain fairly constant as the city grows, the Board estimates that the increased population of Toronto would require 45 square miles in addition to the 55 it now occupies.

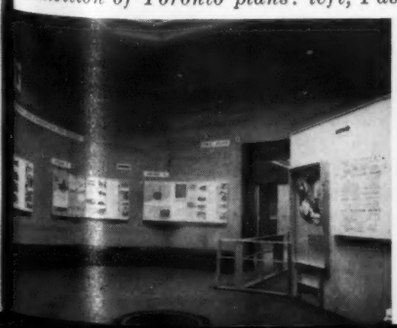
The Board proceeded on the assumption that the present political boundaries of the city bear no relation to the social and economic realities of the lives of its people. In an effort to cut traveling time from workers' homes to industrial centers, the Board built up a concept of neighborhoods similar to the "Communities" of the Detroit Plan (PENCIL POINTS, December, 1943; January, 1944; February, 1944).

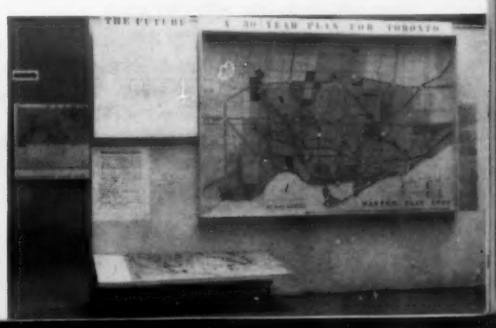
The Board hopes to create a green belt between the metropolitan and suburban areas of the city. This feature, would provide parks equally accessible to urban and suburban dwellers among the city's magnificent ravines.

For the first time in the history of North American town planning, an agricultural belt is to be established around Toronto to limit the city's growth to the area deemed desirable, in order to prevent the great damage which has been done to many cities by the subdivision and sale of land beyond any predictable need.

(Pencil Points is indebted to Mr. E. G. Faludi, Manager, Planning Office, Toronto City Planning Board, for this report.)

Exhibition of Toronto plans: left, Past; center, Present; right, Future





News

Application deadline for the Dublin Corporation competition has been extended from March 13, 1944 to May 31, 1944. The competition, which was announced in the January issue of PENCIL POINTS, is for the design of a 320-bed Tuberculosis Sanatorium at Ballyomen, Lucan County, Dublin, Ireland. Applicants, who must send a refundable deposit of £3.3 (about $13.00), will receive the specifications. Prizes range from £500 to £150 (about $2,000 to $600), and all qualified architects may enter the competition. Write to:

City Manager and Town Clerk
Corporation of Dublin
Public Health Dept.
Municipal Buildings
Dublin, Ireland

New York's Architectural League is presenting an exhibition of prefabricated houses, from March 8th to 29th, at 115 East 40th St., N. Y. Exhibitors include American Houses Inc., Celotex Corporation, General Houses Inc., General Panel Corporation, Gunnison Housing Corporation, E. F. Hauserman Company, Homasote Company, Horsley Company Inc., Houston Ready Cut House Company, Ivon R. Ford Lumber Company, National Homes, John B. Pierce Foundation, U. S. Plywood Corporation, Condensation Engineering Corporation.

Three meetings are planned, the first for March 8, at which Robert L. Davidson and Raymond Ashton, President of A.I.A., will speak. On March 16 technical problems will concern an Industrial Conference. On March 23 a dinner meeting will be held. Julian Garnsey, Herbert Emmerich, John Blandford, and Abner Ferguson are scheduled as guest speakers on these occasions.

William E. Haugaard, New York State's Commissioner of Architecture for 16 years, has resigned to resume private practice in New York City. While State Architect, he was responsible for design and construction of over $250 millions worth of building construction of all types, including prisons and hospitals. Among the latter are mental institutions such as Pilgrim State Hospital and Willowbrook State School (for defectives) which is now the Army's Halloran General Hospital.

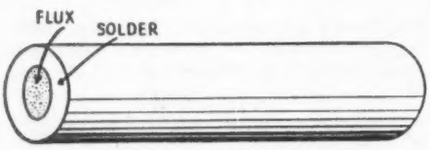
On Feb. 21, Cornelius J. White, a practicing architect since 1913, of Staten Island, N. Y., was appointed Commissioner of Architecture for New York State.

News

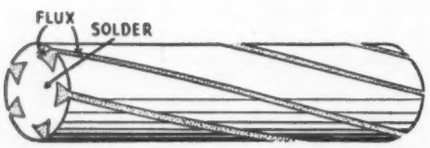
Products Progress

New Fluxed Wire Solder

Containing flux in longitudinal spiral grooves on the surface rather than in the conventional core, *"Fluxrite"* is a new wire solder put out by the *National Lead Co., 111 Broadway, New York, N. Y.* Advantage is said to be the supplying of flux to the surface to be soldered before the solder melts, whereas



CONVENTIONAL FLUX-CORE WIRE SOLDER



NEW TYPE OF WIRE SOLDER WITH FLUX IN GROOVES

cored wire supplies flux and solder simultaneously. The flux in Fluxrite is a new product, available in two compositions, distinguishable at a glance because they are integrally colored for identification, for different types of work.

Reflective Sign Sheeting

The manufacturers of scotch tape, *Minnesota Mining and Manufacturing Co., St. Paul, Minn.*, have developed *"Scotchlite,"* a reflective material consisting of small glass semi-spheres mounted firmly on weatherproof, adhesive sheeting. The material has been tested on highways for 4 years. It is flexible, can be cut to any shape desired, does not tarnish or discolor, and comes in sheets or rolls 12 or 24 in. wide, up to 50 yd. long. Available in white, silver, gold.

Humidifiers to Use with Radiators

The *"Siefken Humidifier"* is a unit designed for attachment to the top of any radiator. It is 31 in. long, 7 in. deep, 5¼ in. high, and is so designed that 3,980 sq. in. of evaporative wet surface is exposed. It is stated that one humidifier per 400 sq. ft. of floor surface is sufficient to keep the atmosphere of an average residence at 40% rel. humidity; in offices, one unit per 300 sq. ft. is needed. *George R. Siefken, 500 E. 20th St., New York, N. Y.*

Improved Intercommunication System

Talk-A-Phone Mfg. Co., 1219 W. Van Buren St., Chicago, Illinois, announces an improved inter-phone system which enables the master station to communicate with one, two, or all outlying departments instantly, without using the central switchboard. Called the *"Talk-A-Phone C-410 Coordinator,"* the system is available for as many as 20, 30, 40, 50, or more stations, and incorporates features which shut out sounds originating at sub-station locations yet permit sub-stations to call the master station at will; and provide extra power when it is required by high noise levels. Earphones for privacy, with independent volume control, are optional. Literature is available.

Closet Hardware and Fittings

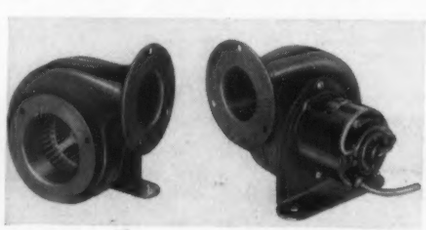
"K-Venience" clothes closet fixtures and fittings, hardware for sliding closet doors, pull-out towel racks, etc., are suggested by their manufacturers, *Knape and Vogt Mfg. Co., Grand Rapids, Mich.*, as items for study in planning postwar residences. All types of racks and hangars, for clothes, hats, ties, shoes, towels, bookshelves, pots and pans, and track, sheaves, and slides for sliding doors and drawers, are included in this fascinating line of devices. Literature available.

Stair Treads to Conserve Rubber

So-Lo Works, Inc., Loveland, Ohio, announces a type of stair tread made of an asphalt and felt composition, suitable for replacing rubber treads. Many advantages are claimed for their *"Dura-Val"* and *"Dura-Val De Luxe"* treads: they are said to look, feel and wear like rubber, to be waterproof, washable, longwearing, nonskid. Available flat, 9 by 18 in.; or with nosing, 9 by 18 or 24 in.; special sizes on order. Easily cemented to any material, these are available for immediate shipment.

All-Purpose Blower

A new, all-purpose blower *(No. 6S Utility Blower)* is announced by *Ilg Electric*



Ventilating Co., 2850 No. Crawford Ave., Chicago 41, Ill. It is designed for solving problems of machine designers. Available in 8 different arrangements of blower and mountings, it eliminates much specialty work in adaptations to a variety of needs. Motor is series wound, 110 V., single phase, 60 cycle, sleeve-bearing, AC, operating at 3400 RPM. Housing and stand are die-stamped steel. Wheel is die-cast zinc, balanced for quiet operation, directly connected.

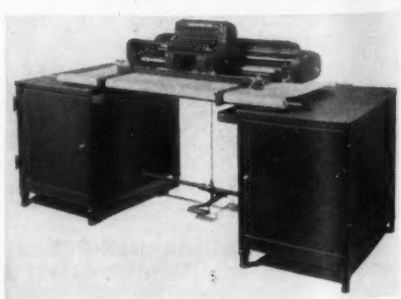
Translucent Plastic Glazing

John Allen Boyle, New York architect, started two years ago to produce prefabricated barracks for the Army. His first buildings had wooden shutters in place of windows, because glass could not be used due to shipping difficulties and the requirement that the barracks be erected in 90 minutes flat with only the tools in an engineer's field kit. They were soon redesigned with windows of

shatterproof, lightweight, translucent *"Vimlite,"* a wire-reinforced plastic. It is claimed that, in addition to solving shipping and handling problems, it permits passage of ultraviolet rays. Vimlite is manufactured by the *Celanese Celluloid Corp.*, division of *Celanese Corp. of America, 180 Madison Ave., New York, N. Y.*

Lettering Machine

An electric machine for lettering drawings is the latest release of the *Underwood Elliott Fisher Company, 1 Park Avenue, New York City.* The machine has an electrified standard typewriter keyboard which anyone can soon operate. The electrically controlled keys may be adjusted to produce lettering of



any desired density, a result aided by a blue print ribbon made especially for this type of work. The writing surface is a flat platen which allows 396 square inches of the drawing to be in full view and in lettering position at all times. Small or large sheets are accommodated with equal facility.

KEEPING JACK AND JILL CONTENTED... IS TOMORROW'S PROBLEM, TOO

THE end of the war will bring problems of plant conversion, and in many instances, the design of new plants to produce materials and equipment for an America at peace.

The past few years have demonstrated the important part adequate washroom facilities can play both in work efficiency and employee relations.

Crane equipment for these washrooms—as well as drinking fountains, shower baths and hospital equipment for the emergency room—is designed to stand up under the tough service to be expected in factories. A wide range of equipment suited to every industrial need will be available for the plants you are now designing.

Today, Crane can furnish you with information, dimensions, and suggestions on sanitary equipment for the plants on your drawing board. Call your nearest Crane Branch for specific recommendations.

CRANE

CRANE CO., GENERAL OFFICES:
836 SOUTH MICHIGAN AVENUE, CHICAGO 5

VALVES • FITTINGS • PIPE
PLUMBING • HEATING • PUMPS

NATION-WIDE SERVICE THROUGH BRANCHES, WHOLESALERS, PLUMBING AND HEATING CONTRACTORS

Reviews

Books

Periodicals

Bibliographies

Manufacturers' literature

Books

Housing Gets a Champion

The Seven Myths of Housing, by Nathan Straus. 5⅝" x 8⅜", 328 pages, illustrated. Alfred A. Knopf, New York, 1944. $2.75.

This is perhaps the most significant book on the vastly over-written subject of housing that has come to our attention since the publication in 1936 of Catherine Bauer's standard work, the American classic on the subject. "The Seven Myths" has more than just the significance which would accrue to any

Answer to Myth No. 2 ("Housing doesn't clear slums"): before and after shots of a low-cost project. From "The Seven Myths of Housing."

author who had been Administrator of the United States Housing Authority. It is written not only with the authenticity which comes with such experience; it is excellent reading because it is written with an emotional impetus arising from the author's anguish at having to resign his position—not because he had failed, but because he stood firmly for and fought courageously for principles against a growing crowd of political opponents.

Now Mr. Straus takes apart, at length, some of the most popular arguments used by the opponents of public housing, arguments which have often been proved fallacious, and which the author debunks. He intersperses his criticisms with a number of excellent stories, drawn from his administrative experience, which are vivid illustrations of his points, hold the reader's interest, and reveal much of the character of the opposition, which is well organized and has a substantial interest in the housing situation.

Throughout the book the author emphasizes again and again the principles which guided him, during his administration, in building up a housing policy for this country. In analyzing his administration's record he does not hesitate to declare its weaknesses. He draws attention to the urgent need for establishing minimum standards for local authorities to set up and enforce legally. This would undoubtedly be enormously helpful in eradicating slum dwellings by squeezing the fictitious values out of such slum properties (page 85).

As for the immediate future, the author recommends continuation of the adopted public housing policy, as a means of stimulating business activity and providing a great amount of employment at relatively small cost to the taxpayer —this as an alternative preferred to large-scale redevelopment programs for which, Straus thinks, most city planning commissions are not ready now and won't be in the immediate future. He believes 40 billion dollars' worth of community rebuilding constitutes a program which does not seem feasible; and implies that it may even jeopardize continuation of a housing program based on tested methods of financing, one that has already proved successful, and though not perfect, workable. He says: "The demolition of areas of blight will have to wait until enough low-rent dwellings are constructed to house the present occupants of unfit buildings."

Although this argument seems valid, I doubt whether a great many of us, who highly respect Mr. Straus' opinions as the result of an extraordinary experience, will agree with him on this point. In fact, he may defeat his own purpose if he would have us postpone again the redevelopment of our blighted communities, and so withhold protection against the destructive influence of blighted neighborhoods from new housing projects.

WALTER CURT BEHRENDT,
Dartmouth College
Hanover, N. H.

Goodbye Mr. Chippendale

by T. H. Robsjohn-Gibbings, Alfred Knopf, New York, N. Y. 128 pages with seven-full page illustrations by Mary Petty. To be released March 13, 1944. $2.00.

Breaking the cobweb cult of antique-collecting with the zeal of a reformer is the young Anglo-American designer, T. H. Robsjohn-Gibbings, who sets forth his credo in this book.

Gibbings surveys the sad state of American interiors, from the sombreness of the chateau country of 19th-century Fifth Avenue, to the hysterical extravaganzas in black mirrors and orchid satin drapery of the sensation-seekers, and the brown plush and fake antiques of Mrs. John Q. Public. He brandishes a verbal sword which cuts cleanly through the bric-a-brac and makes short work of the ponderous importations. In place of these phony fads and ornate items that Americans have been cluttering their homes with in the wistful illusion that they are doing homage to their English forebears, or their French cousins, Mr. Gibbings calls for contemporary furniture that will make the most of 20th-century America's strides in designing.

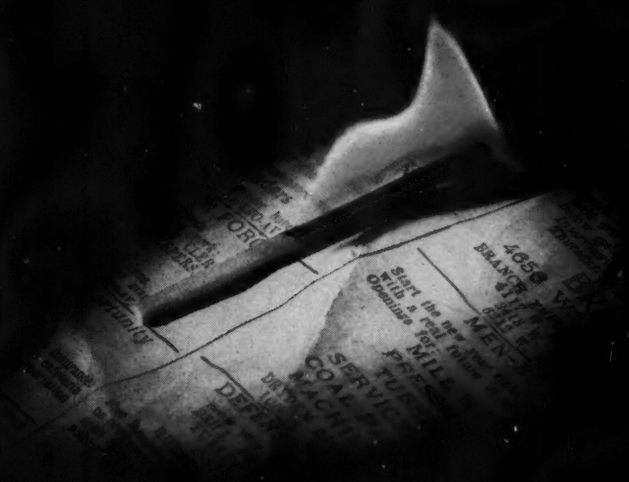
His book is an entertaining story of the fashion and passion for antique furniture and decorations. Debunking the "untouchable trinity of antique legend," Chippendale, Hepplewhite, and Sheraton, Mr. Gibbings lays bare the conspiracy foisted upon American furniture buyers, showing the collecting mania for what it is—a never-ending scavenger hunt for Europe's discarded monstrosities.

Good-bye Mr. Chippendale clears the air of mustiness—the rest is up to the

"The Turkish Corner," drawing by Mary Petty from "Goodbye Mr. Chippendale."

(Continued on page 30)

Incident . . . or Disaster?



TAKES ANY FORM OF DECORATION—Any finish that is sprayed, brushed or pasted on may be successfully applied on Sheetrock: or it may be purchased already decorated—ready to apply.

"WELDED WALLS"—Panel joints concealed and welded together by Perf-A-Tape . . . stronger than the panels of Sheetrock themselves.

VERMIN-PROOF—Sheetrock has a mineral core . . . it does not attract or support vermin of any kind.

WON'T WARP OR BUCKLE—Sheetrock is like a stone wall. It does not twist and pull out of shape with changes in temperature and humidity conditions.

SHEETROCK

Fireproof WALL AND CEILING PANELS

First a tiny spark—then a small blaze that's soon snuffed out—that's *just an incident.* But when flame ignites "tinderbox" walls and ceilings—sweeps on unhindered and leaves a trail of smoking ruins behind—*that's a disaster.*

The time to control fire is before it gets a "head-start"—with walls and ceilings of Sheetrock*, *the fireproof wallboard.* Made from gypsum, Sheetrock opposes fire with a fire-fighting mineral that cannot burn—and acts as a fire-armor to shield the structure over which it is applied.

Thanks to Sheetrock, you can have fire protection *and more.* There's no waiting before decorating—no delay in applying trim—no lost motion, time or material.

Sheetrock lends itself to any form of decoration—provides sweeping, unbroken surfaces—reinforced and "welded" into one unit with joint-concealing Perf-A-Tape*; or joints may be featured as part of the decorative plan with "Panel-Wall" method. Pre-decorated Sheetrock comes in pastel shades or woodgrain effects. Walls are finished and done as the board goes on.

No wonder Sheetrock—after 20 years and more of use and proof—has become the best known and most widely used gypsum wallboard in the world.

*Trademarks Reg. U. S. Pat. Off.

USG

UNITED STATES GYPSUM

300 WEST ADAMS STREET, CHICAGO, ILLINOIS

This famous trademark identifies products of United States Gypsum Company—where for 40 years research has developed better, safer building materials

YPSUM PRODUCTS • STEEL • INSULATION • ROOFING • PAINT

GYPSUM WALLBOARD • SHEATHING • LATH • PLASTER

FIREPROOF GYPSUM

The World's most widely used Mineral for making Fireproof Wall and Ceiling Products

GYPSUM FIREPROOF ROOF DECK AND PARTITION TIL

Installing Monowall is a one-man job

YOUR clients won't have to hunt frantically for help if you recommend Armstrong's De Luxe Monowall for needed renovation. That's because there's no special preparation required and no finishing to do. The large, factory-finished boards are simply cemented in place—right over most any surface that's dry and firm. Any competent mechanic can follow the complete instructions which are sent along with each shipment.

De Luxe Monowall comes in a range of popular plain colors and scored tile-designs, in sizes from 4′ x 4′ to 4′ x 12′ —5/32″ thick. It is installed with special CM-50 Cement, applied with a notched trowel. To finish the job, Armstrong offers a complete line of moldings and channels.

Armstrong's De Luxe Monowall is an ideal choice for bathrooms, kitchens, and other rooms in the home or business building. Installation is fast and neat. Rooms are ready for use immediately. And, once installed, De Luxe Monowall needs only an occasional wiping with a damp cloth to keep its glossy, durable surface looking spick-and-span. Its quality is being maintained at high peacetime standards.

LET US SEND YOU samples and data. Just write Armstrong Cork Company, Building Materials Division, 6903 Lincoln St., Lancaster, Pa.

ARMSTRONG'S MONOWALL

Made by the makers of TEMLOK INSULATION—Sheathing, Lath, De Luxe Interior Finish

Reviews

(Continued from page 28)

American public, and our country's very expert craftsmen, Mr. Gibbings says.

Mary Petty, celebrated for her inimitable *New Yorker* drawings, has designed the jacket and contributed seven full-page illustrations of enchanting satire to the book.

Periodicals

Journal of the A.I.A.

First issue, January, 1944. Official A.I.A. organ, Published monthly at the Octagon, 1741 New York Ave., N.W. Washington 6, D. C.

Big news for architects comes with this new pocket-sized A.I.A. publication; Henry Saylor, Dean of American architectural editors, is back in harness. He has turned out a well written, well edited job, and there is a good, solid list of contributions. After starting with an *apologia* in which he says he has no inclination to apologize, Henry reports on D. K. Este Fisher's statements of A.I.A. views before the Congressional committee which has been holding hearings as a basis for developing legislation to facilitate postwar construction. Fisher stated, among other things, that: "Architects look with suspicion on legislation which might suggest that, in the end, huge Federal funds will be provided for local construction projects, under Federal direction and control." (Well, well! Did Mr. Fisher really speak for *all* architects? By what right? However, a review of a publication is not the place for detailed discussion of a single article in it.)

Charles D. Maginnis, F.A.I.A., contributes "Musings on the Morrow" of architecture somewhat as a *pater familias* might, and maybe he has the right to do so. Percival and Paul Goodman are represented by a digest from an article of theirs, first published in *The New Republic*, called "Factory and Community." It is titillating to find the Goodmans' extremely logical long hair flourishing on the page opposite Mr. Maginnis' thinning silver locks. Walter MacCornack, F.A.I.A., wants us to stop tinkering with building codes until we arrive at some sort of national standard for code writing, so that we won't have as many different codes as we have municipalities.

Other contributors—lack of space prohibits comments—include: Col. W. N. Taylor, Frederick Heath, Jr., Robert Moses, Theodore Irving Coe, Eugene Klaber. The Editor of the Journal has a lot of different kinds of people to interest, and he's off to a good start.

(Continued on page 84)

Say What You Mean

Architects habitually transmit their ideas to one another and to the public in three ways; by means of the written or spoken word, by drawings or graphic diagrams, and by their completed works. Is it too much to expect of them that, however they choose to express themselves, they shall say what they mean, clearly and unmistakably?

Much of the confusion in the world results from the failure of minds to meet, largely because of inexactness in using language. A good deal of such misunderstanding is produced wilfully through well-known tricks of argumentation. Have you never felt frustrated when the participants in some debate went off in different directions by using the same words to mean different things?

We can recall feeling sometimes similarly baffled when we have listened to certain architects talking about architecture, or have read what they have written. In these cases, of course, the lack of clarity was not intentional; it arose from either carelessness or ineptitude. The profession as a whole is, we hope, more rigorously precise in writing specifications and contracts.

But we are not quarreling with the amiable incoherencies that mark friendly discussions among professional men about the common object of their affections—architecture itself. After all, love is an unsettling influence. We complain rather against a tendency, too often shown in recent years, to be esoteric and mystifying through drawings. Something should be done about this.

The purpose of architectural drawings, as we understand it, is to convey to the beholder—whether he be professional or layman—a clear understanding of the architect's intention. To succeed in doing this it is important that unnecessary complexity be avoided, and that the graphic symbolism used shall be as nearly as possible universally intelligible.

There was a time, not so long ago, when this condition prevailed in America, and a drawing made by an architectural draftsman in any part of the country was quite clear to everyone who might have occasion to read it in any other part of the country.

Within the past ten years or so, however, an increasing number of drawings have appeared in publications, in competitions, and elsewhere which, though they may tell their story to the initiated technicians, are difficult for the ordinary person to read and understand. We have a notion that by making them thus the designers and draftsmen concerned also make it unnecessarily hard for their often really brilliant ideas to be appreciated and accepted. Wherein lies the advantage?

As for the third and ultimate means of architectural expression, we are quite positive that much of the undeniable confusion that shows in the architecture of the past few decades in America comes from the failure of designers to be candid and clear about what they were saying in solid, three-dimensional form. Too much misguided effort went into attempts to make buildings seem to be that which they were not. Too much pomp and circumstance, too much cheap exhibitionistic splendor was put into designs that should have been clean and fine and straightforward statements of their purposes and their structural systems, dependent for their beauty on things more fundamental than historic detail.

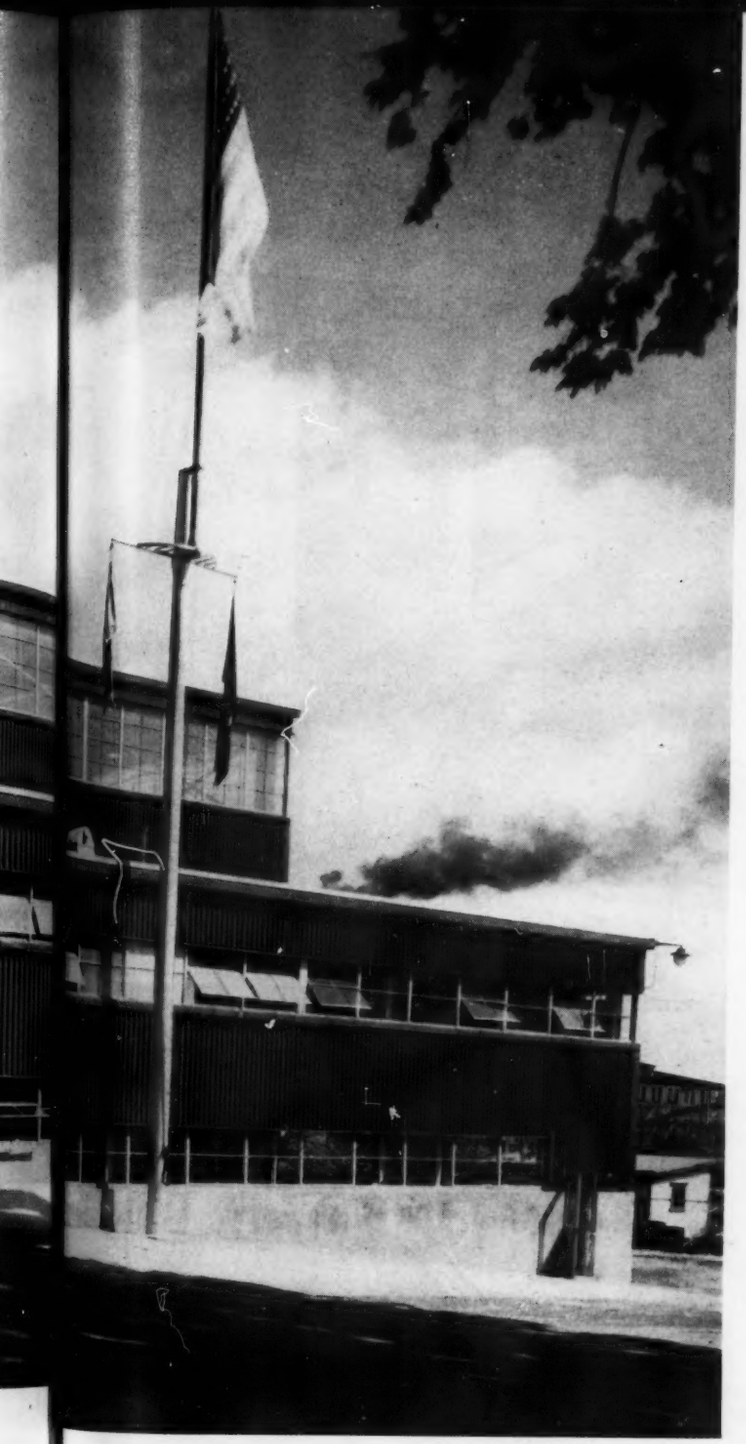
The fakery got by for a while but "you can't fool all of the people all of the time." Luckily, a healthy reaction has taken place and good architects today find satisfaction in a simpler, more direct approach to their design problems. We have had a breathing spell during the war in which to reflect upon our past sins. In the name of Architecture, let us *all* resolve that in the new world of after the war we will honestly say what we mean—and mean what we say.

Kenneth Reid

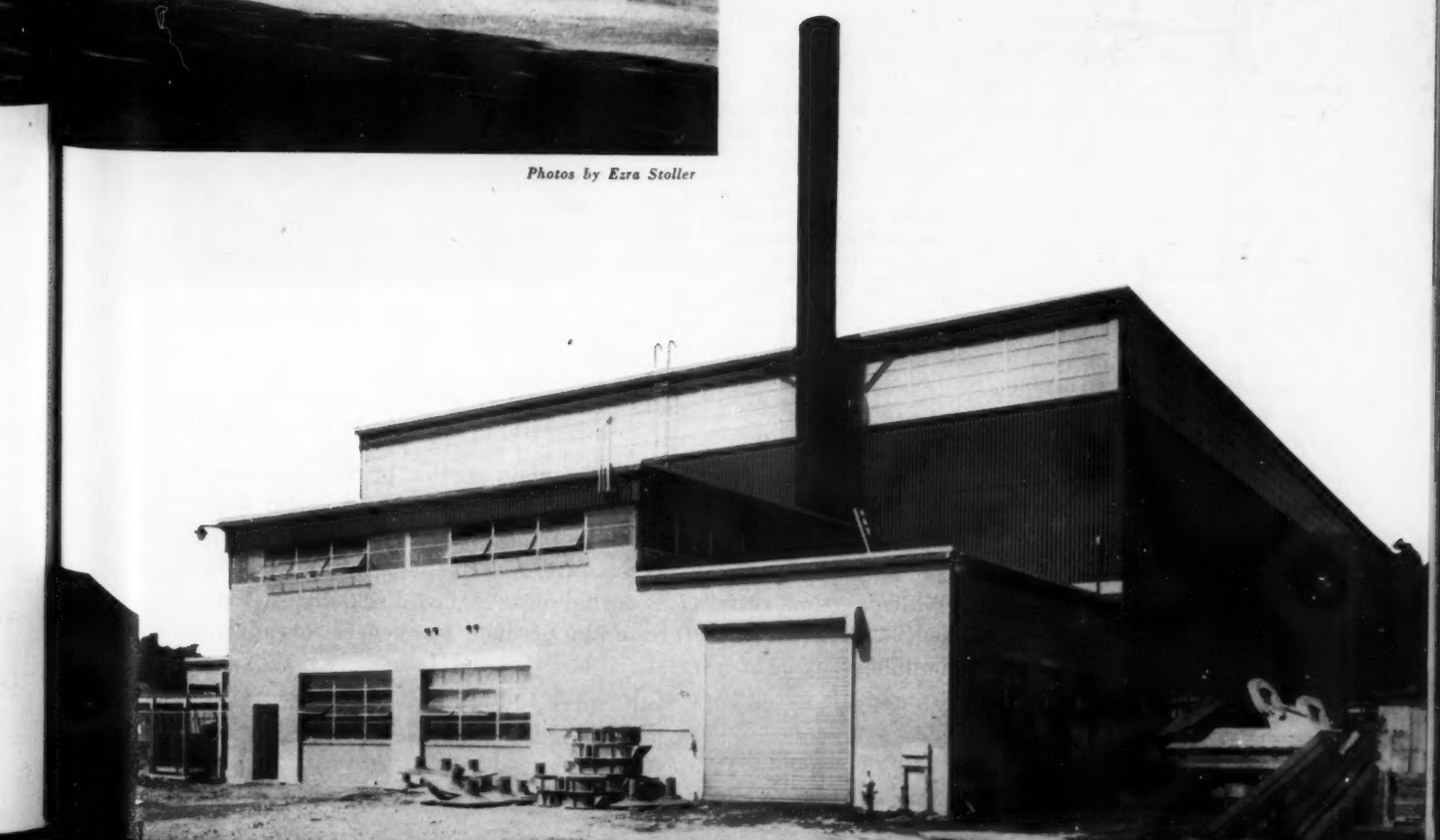
Machine Shop and Assembly Building for a War Plant in Maine

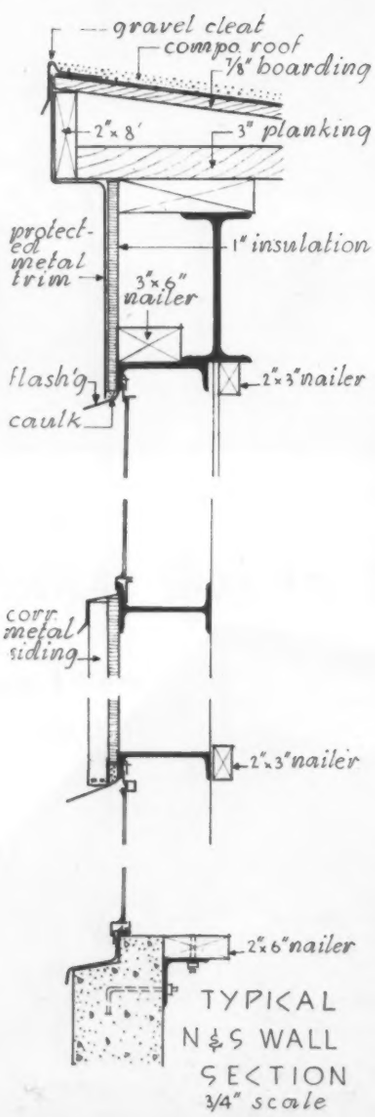
Alonzo J. Harriman,
Architect-Engineer

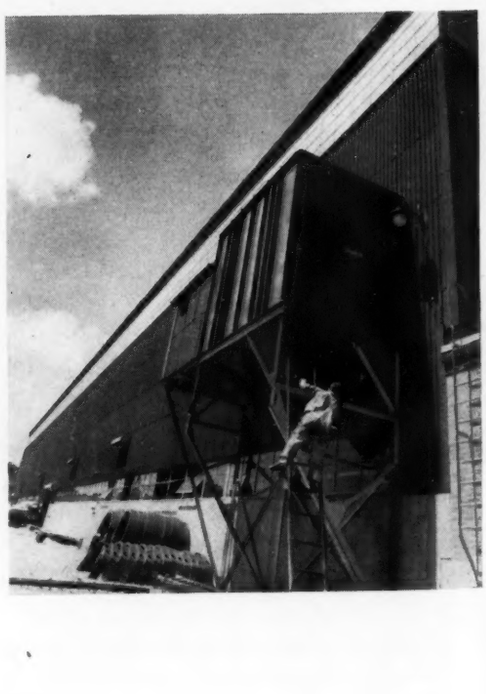
A sizable group of architects and designers (not to mention certain building-material manufacturers) contend that the ultimate in architectural design is approached when structure, surface finish, and decoration tend to merge, if not to be, in fact, one and the same. To that group, this unit of a war-industry installation will appeal with special force. To be sure, in this case the exterior material—insulated corrugated metal siding—is not load-bearing, but its use as a building envelope is honestly expressed, with the steel frame clearly showing both on the interior and through the window strips from the exterior. Certainly the architect has capitalized on the inherent qualities of the material in his use of it as a bold element of his design. For all designers, the building's cleancut lines and sound structural system (see details, page 38) are worthy of more than passing notice. The explanation of why this building is so honest and uncompromising is better understood when you know something about the architect, how he thinks and how he works—as you will, if you turn to page 39.



Photos by Ezra Stoller







In the work area, high bay lighting units are mounted at practically ceiling level. With mercury-vapor and incandescent elements combined in single units, the lamps provide a high intensity of light and comfortable, non-glare working conditions.

Built on concrete foundations, the main portion of the structure is framed in steel, with wall envelope of insulated corrugated metal siding. Fixed steel sash rim the top of the building on all four sides; at work-area levels and in service rooms, the sash are operable. The roof is of composition. While wartime restrictions forbid any detailed discussion of the plans, size of the structure or nature of the product, the general organization of the building may be of interest. At basement level are located boiler and heating equipment, garage space, first aid room and storage areas. On the main floor are the machining, assembly, and finishing rooms, employee locker and washrooms, and supervisory offices.

Perspectives

Practical Idealist from the Pine Tree State: Alonzo J. Harriman

Alonzo J. Harriman, architect-engineer, designer of the industrial plants immediately preceding and following this sketch, was born in Maine, July 6, 1898. Couple that with the fact that Maine is the home today of Mr. Harriman's successful practice, and you've an impressive, rather rare, instance of the professional man who realizes the humble hopes of those who fondly state: "There's no place like home." Must be a conservative, you say?

Yes, Alonzo Harriman's a conservative. But he's not the diehard who builds his life on the "what's-good-enough-for-father-is-good-enough-for-me" concept; nor the Procrustes who finds a tradition acceptable and ever after tries to make every thing and everybody fit the inflexible gospel. Harriman is the conservative who subscribes to basic principles, rather than to traditional practices; the man who, when faced with a problem, cuts through the mumbo-jumbo of prejudices and styles and conventions and asks himself fundamental questions: What is the desired end? By what logical routes may it be reached? What techniques, old or new, will best solve the problem?

His choice of career, choice of residence, solution to design problems and his theories and beliefs all evidence this skeptical sort of conservatism based on reality. For instance, he lives and works in Maine, not because his parents did, or because anyone told him to, or even that it's particularly lucrative for an architect to do so (which it's not), but because "I like the Maine climate, the lakes and woods, and the recreation they afford. The thing that a city dweller looks forward to all year is available in 15 minutes from any point in Maine. I like and understand Maine people." It's seldom been our privilege to listen to more solid reasons. It makes us, in turn, "like and understand" Mr. Harriman. And we suspect that most city dwellers will share with us this admiration, not to say a touch of honest envy.

He spent his childhood in Bath, and most of what has happened to him since is the result of smelling the sea and watching the Yankee drama of ships going down to it. The University of Maine, in 1920, graduated him as a B.S. in Mechanical Engineering. During collegiate summers he eschewed the typical collegian's escapist holiday; he worked in the Bath Iron Works. For a time he was a draftsman, but even more significant was the experience he gained by earnestly trying himself out at every phase of the shipbuilding operation; he was successively machinist, fitter, riveter, and member of trial crews. He had a sweaty year, following graduation, in the Works' boiler shop.

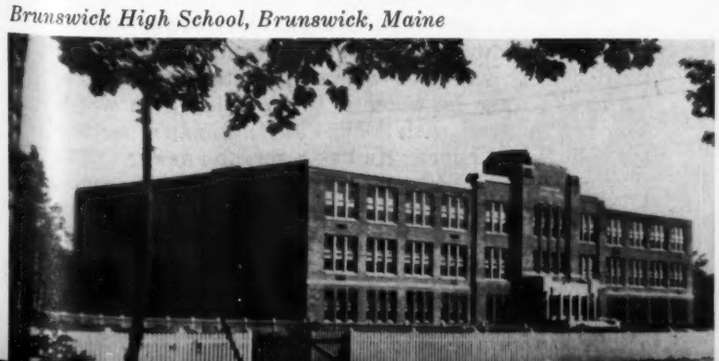
"I intended originally to be a shipbuilder," he says, "and my studies in mechanical engineering and work with ship-construction, design, and operation were all focused to this end. Lack of work in this line in 1921, however, indicated a change, and I shifted to building construction, working as an engineer in an architect's office. I became much interested in architecture. . . ." "Furthermore," he tells us, "I discovered that structural design for buildings was much simpler than for ships."!! (With that sort of experience and application, it isn't surprising that Harriman is equipped to lay out and design iron works and shipyard installations [just when most needed for a national emergency] as few of his colleagues could.)

At about the time he made his discovery, Harriman made a typical—methodical, honest, forthright—decision. He'd worked as a structural engineer for five years; he was nearing 30, but he preferred to be an architect-engineer rather than just an engineer. So he went back to school—to Harvard this time. And, in 1928, he emerged from the Yard—and Robinson Hall—with an M.A. in Architecture.

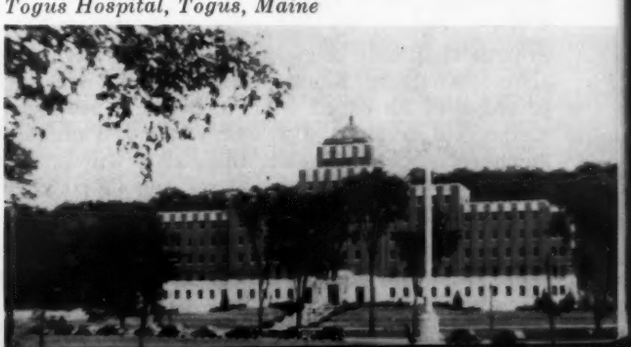
At Harvard he apparently made no particular impression on fellow students. This may have signified a retiring nature, or merely an earnest desire to be left alone to do his work in peace. His projects were neither controversial nor superb in the faculty's judgment; his ties were not loud, nor his socks, nor, Heaven forbid, his clothes. This was odd, too, because his stay at Robinson coincided with the first faint contemporary hammering at the then Corinthian gates, and the natural collegiate reaction can be imagined.

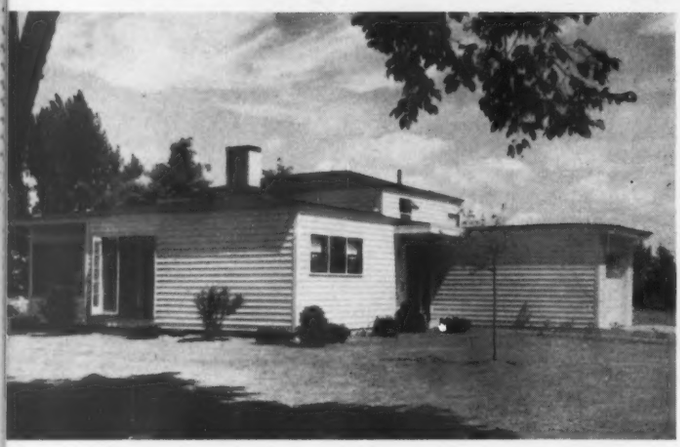
We gather that Mr. Harriman seldom, if ever, wasted time or energy, which makes us feel a little self-conscious or something. For, while pursuing his architectural training, he spent "spare time" within the august, indeed Gothic, portals of Messrs. Cram

Brunswick High School, Brunswick, Maine



Togus Hospital, Togus, Maine





Residence by Alonzo J. Harriman, Architect

and Ferguson in Boston to undertake part-time work as structural and architectural draftsman.

While he was at Harvard he decided to return to Maine to live. Along with assaying the amenities of existence in his home state, he also considered the financial outlook, and again reached a good, solid Harriman decision. "Although not as lucrative as practice elsewhere might have been," he comments, "the ratio of the earnings of the profession to the community was just as high." Again, typically methodical answers to familiar, basic questions: What can I do? What do I wish to do? How can I best do it?

A partnership—Harry S. Coombs and Alonzo J. Harriman—existed from 1928 to 1939. Most of the practice consisted of schools, institutional and municipal buildings. From cursory study of the photographs of two typical jobs of the period (bottom page 39), it would appear that the designs were adequate if not especially newsworthy. It may be assumed, we think, that the planning and the construction were as forthright and thorough as the architect himself, but the buildings hardly reflect broad imaginative flights or any considerable departures from standard practice. We suspect that the "architecture" was strongly conditioned by Boards of Directors and Education, not to mention budgetary limitations.

In 1939, the firm of Alonzo J. Harriman, Architect and Engineer, Auburn, Maine, was established. The war brought expansion of boom proportions. "Previous to the war," we learn, "my office consisted of two men and a secretary. In January, 1941, we put in an office in Bath and in April of 1941, another in South Portland and later, one in Portland." The reason for these several offices was to serve more efficiently the increased speed required in the production of war plants. "We could thus cut down on the usual lag between the job and the architect's office which so commonly occurs when the office is not at the site. The maximum personnel in 1942 was about 100. Each office was an individual organization under our direct supervision."

This expansion of the firm from 3 men to 100 within 3 years is obviously abnormal, a giant and one-sided growth that only a global war would have brought about. Knowing Alonzo Harriman, we are not surprised that he coped with it in an expeditious and methodical manner. Postwar years will undoubtedly mean retrenchment; that this, also, will be handled with deliberate confidence is a foregone conclusion—knowing Alonzo Harriman.

The work of the firm both during the war years and those immediately preceding has been mainly on housing projects and industrial plants. There was FPHA housing in Bath, Brunswick, and South Portland; there were the greatly expanded facilities of the Bath Iron Works; and shipyards in South Portland. Other work included: a ferry slip for the U. S. Maritime Commission, low-cost housing for the Navy, a hospital and six schools for FWA, and sundry small municipal buildings, schools, and residences.

We question whether Mr. Harriman's experience is even approximately duplicated by that of any member of the profession. Which only goes to show how untypical "an architect" is, how fatuous become most generalized statements about "The Architect" in the light of the vital experience of any single, active practitioner. But while there is no fixed pattern for becoming, or any all-inclusive definition of "an architect," there is an area of basic principles within which all architects survive and progress. It should be enlightening for others to know upon what convictions Mr. Harriman has built his successful practice.

Good architectural design, Mr. Harriman believes, is "honest planning for the service the structure is to render—with emphasis on scientific rather than the *beaux arts* approach." He feels that architects should make much more sincere selection of structural materials than is usually the case, considering length of life and maintenance first, and cost second. "Appearance should be the final consideration," he maintains, "not the first; appropriateness and good taste will be obtained if the first two are correct."

Concerning two matters on which many architects are wobbly, Mr. Harriman has this to say: "Architects should have greater knowledge of advanced structural engineering principles, such as are now developed by airplane design, so that they may give the public a scientifically engineered building that is more efficient, a building in which structure and surface coverings form an integrated unit. . . . They should also have a more extensive knowledge of industry, especially of processes and products; building products should be used and encouraged that can be mass produced and that are tougher and lighter than our present materials, with the idea of greatly reducing the ratio between dead and live loads."

With disarming frankness, Harriman erases generations of contrary opinion when he testifies that he considers architecture "entirely as a science. I continually look for means and methods of using mechanical energy to replace muscular energy, so as to keep up with other and competing branches of industry."

A final recommendation and admonition to the profession: "Forget the 1900 standards of ethics relative to advertising, and fight fire with fire, or the majority of architects will become contractors' employees."

These controversial observations are full of fight. Alonzo Harriman may have been born and raised in Maine, and he may have returned there to practice, but there's nothing insular or cloistered about his ideas. His challenge is as salty as a Northeast blow. This kind of thing—coming from an unself-important man who sat right here in a chair in our office trying to say it over the gale that drummed past our twelfth-story window—was a little startling. It was no less so when he wrote it to us in black on white. You may quarrel with Alonzo J. Harriman's particular beliefs and hopes. He has a serene answer. "You may gather," he writes, "I am an idealist and, therefore, I am not afraid of standing alone." Those too timid to do likewise may ponder the fact that he *had* four offices employing 100 men going at one time in the Pine Tree State.

Photo by Ezra Stoller

Iron Works—Expanded Facilities

Alonzo J. Harriman, Architect-Engineer

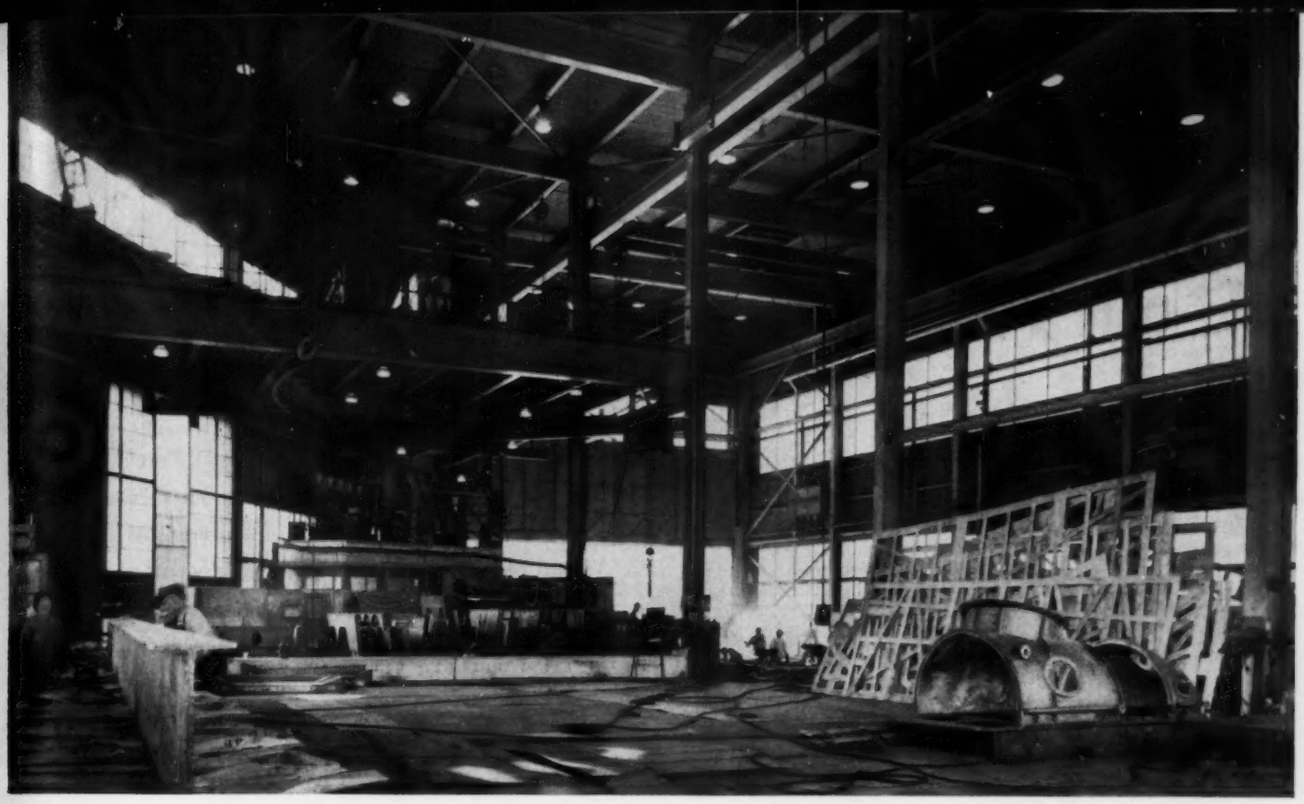
Design of an iron works and shipbuilding installation requires an extraordinary degree of specialization. Many—if not most—architects would have to start with the A-B-C's and conduct extended research before attacking such a project with confidence. Not so, Alonzo Harriman. For, he had originally intended to be a shipbuilder and, before he became an architect, he had worked in practically every department of this very iron works—including the boiler shop. Little wonder, then, that he was able to handle the assignment with the speed and precision demanded for emergency war construction. Little wonder, either, that the units of the project have such an authoritative air of fitness for purpose. The architect's work included docks, dredging, a welding building, storage building, office building, paint shop, yard services, and utilities.

Photos by Ezra Stoller

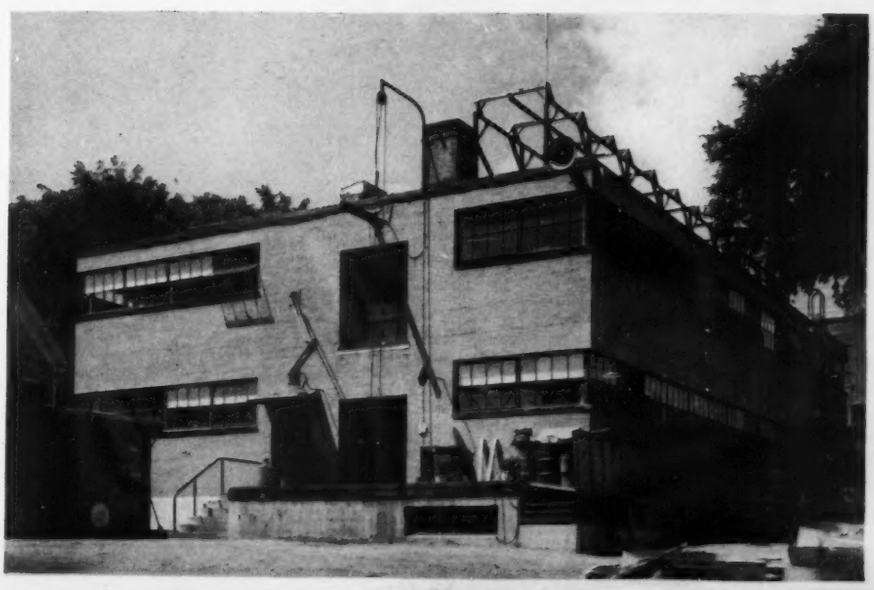
The large photograph at left shows the general organization of the expanded facilities for the Iron Works. At left, in the background, adjoining a new dock, is the new welding building; the storage building is in center background, and additional new construction is under way at right. Detail photographs of the storage building appear above and below this column of text. In addition to storage space, the building contains employee wash rooms, telephone switchboard room, and certain mechanical equipment used throughout the yard. Construction of the building consists of a steel frame, with wall surfaces of corrugated asbestos siding; sash are of steel; the roof is tar and gravel. As in the case of the first industrial plant shown in this issue, it is noteworthy that the structural materials themselves, well organized, need nothing to supplement them in the way of surface finishes or applied decoration. This results not only in a highly functional, somewhat austere building, but also in lowered costs, both initial and maintenance.

Photos by Ezra Stoller

The photograph of the welding building shows clearly the frank use of corrugated siding and horizontal window strips to form the building design, without fuss or feathers. Built like the storage building on the preceding page, frame and sash are steel, and the roof is tar and gravel. Inside (see photo at top of facing page), the welding floor is made of ¾-inch steel plate; light sources are high-bay units combining elements of both mercury vapor and incandescent lamps.



The Works drafting room, located in the main administration building (not otherwise shown here) is a well-lighted room with acoustic ceiling. Walls are of common brick; floors, linoleum.



The paint shop building occurs in an adjoining yard. Brick walls, steel sash and loading-dock appurtenances compose to give this tidy structure a nautical air.

Critical Materials Notwithstanding...

Albert Kahn

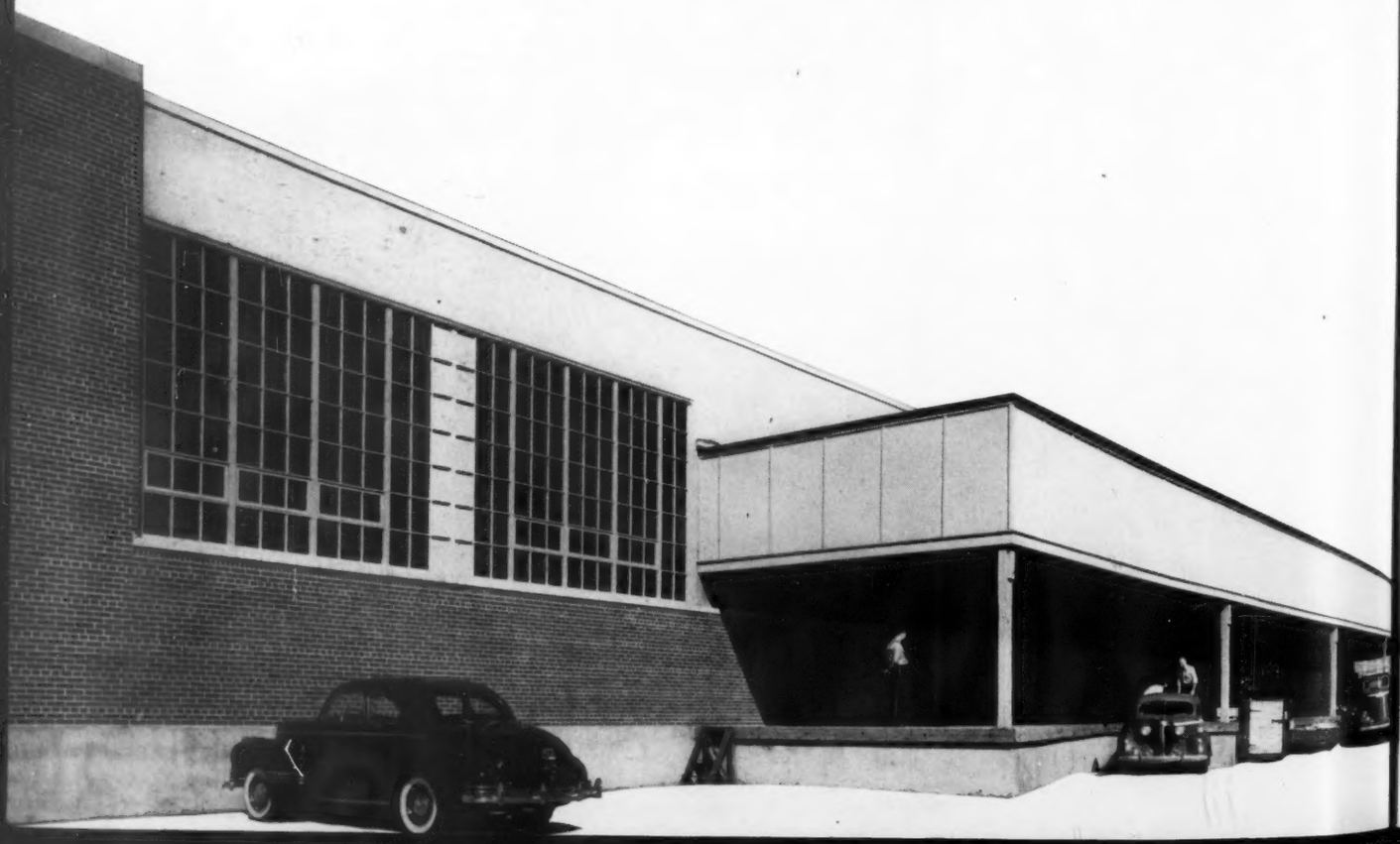
Associated Architects

and Engineers, Inc.

Designed and built at a time when restrictions on the use of steel and other scarce materials were most severe, this sizable midwestern aircraft-engine assembly plant is an excellent example of ingenuity in overcoming limitations to meet wartime needs. The bottom seven and one-half feet of the exterior walls—from footings to sills—are of brick; wood sash extend from sills to spandrel beams, and the roof construction, detailed on succeeding pages, is as practical as it is ingenious in providing a satisfactory temporary solution, easily adapted for later conversion, when materials are again available. All floors are surfaced with wood blocks.

An expansion of previously existing facilities, the one-story structure uses power and other services from the main plant; executive offices and related activities are also apart from the new structure. Loading facilities are organized along two sides of the building—a truck-loading dock of the serrated type along one wall (photo below) and railway dockage with depressed tracks on another side, shown in the photograph at the bottom of the facing page.

Everything is laid out at ground level with the exception of employe wash rooms, which are located in basement spaces. Four fans, installed on the roof, provide summer and winter ventilation. As with all war plants, construction speed was an important factor. In this case, ground was broken in May of last year, and by fall, finished engines were coming off the line.



Photos by Hedrich-Blessing Studios

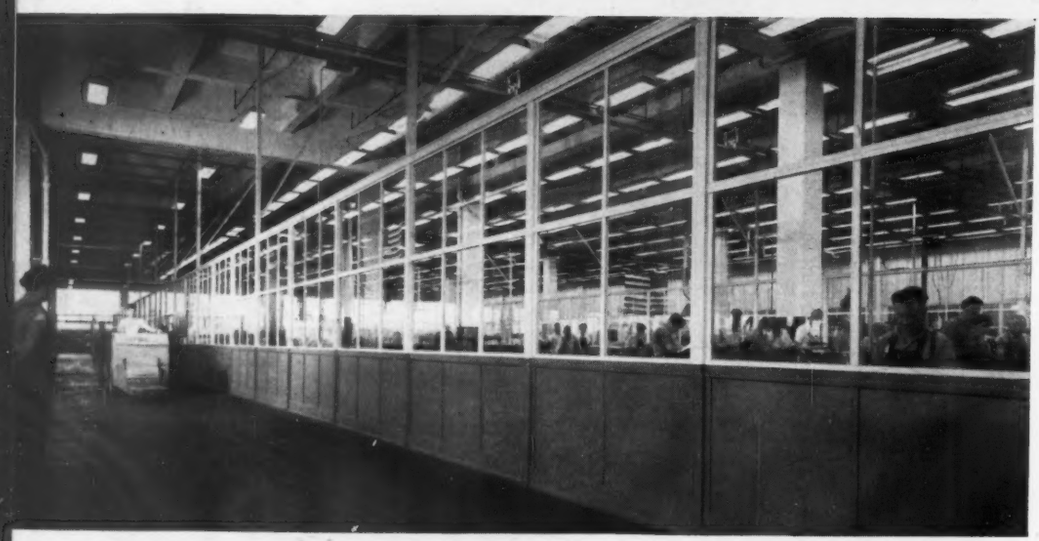
Above: The main entrance of the plant is flanked by unbroken rows of wood sash. Below: Facing page, the truck dock; this page, rail accommodations.

Albert Kahn

Associated Architects

and Engineers, Inc.

Photos by Hedrich-Blessing Studios

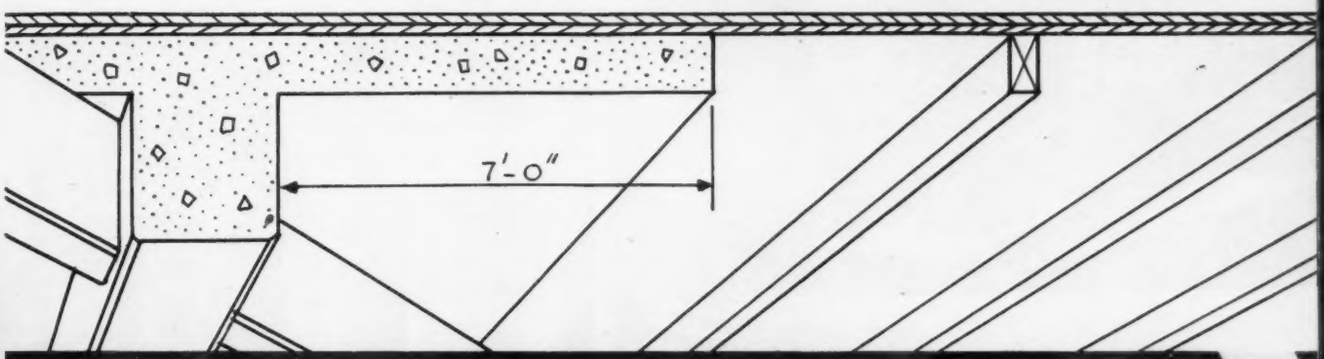


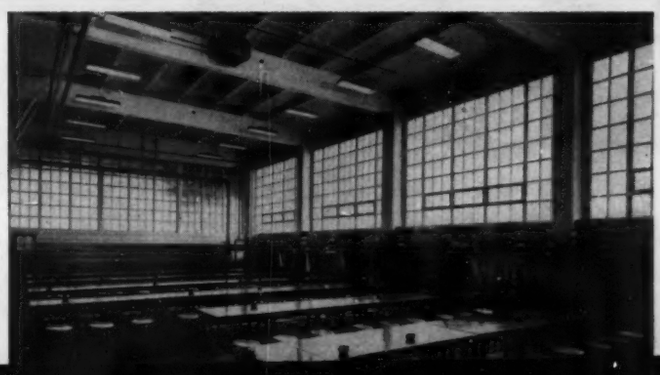
The roof structural system merits particular attention. Lacking steel and other materials required to construct monitors, the architects worked out a skillful temporary installation that can be replaced by monitors at a later date. A study of the extension drawing on the facing page reveals the method employed.

"T" sections of reinforced concrete in both the supporting end column and in the cross slabs run the full length of the building, and parallel to each other. Before the roof was finished, the architects comment, the framing gave the appearance of a huge train shed with "T"-shaped shelters running along the trackage.

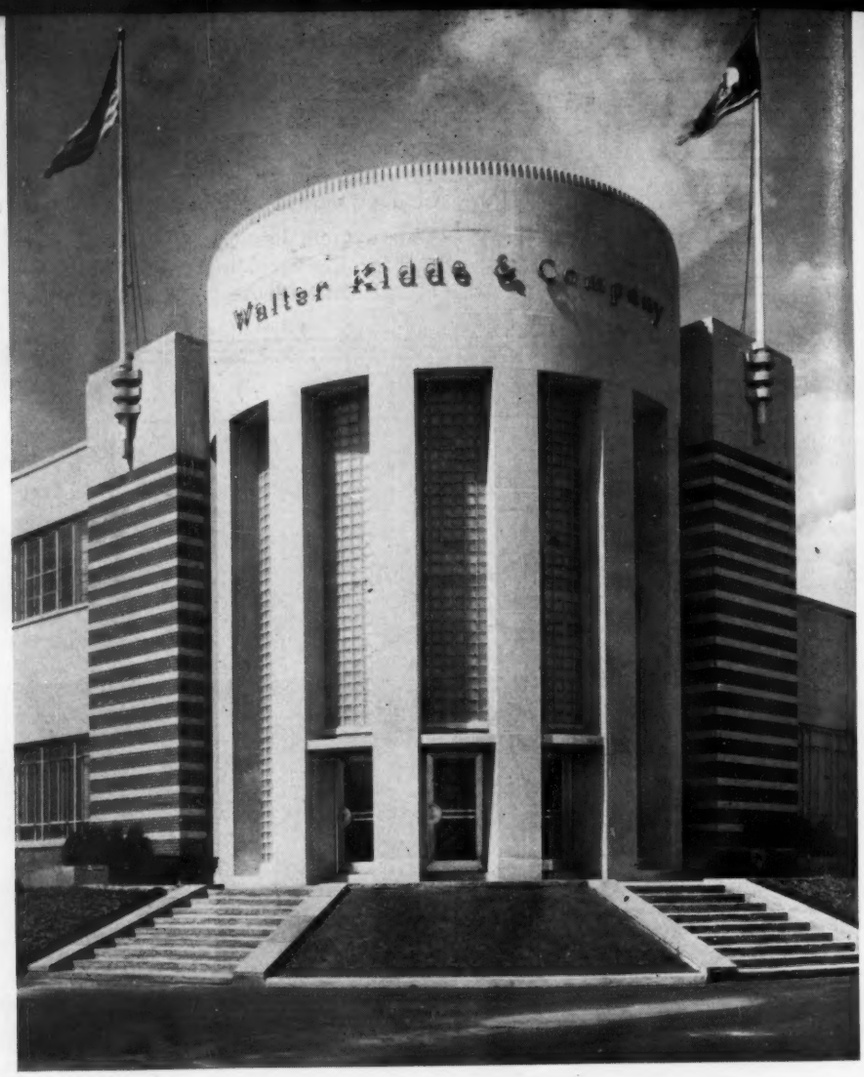
The cantilevered roof slabs extend seven feet on either side of the vertical supporting columns, and from the edge of one slab to the edge of the slab in the next parallel "T" section is a span of 26 feet. This gap is temporarily bridged over by timber construction.

This system has the dual advantage of requiring no steel except available reinforcing steel in the concrete, and the timbers may readily be knocked out at some future time, if the owners decide to install a monitor-type roof.



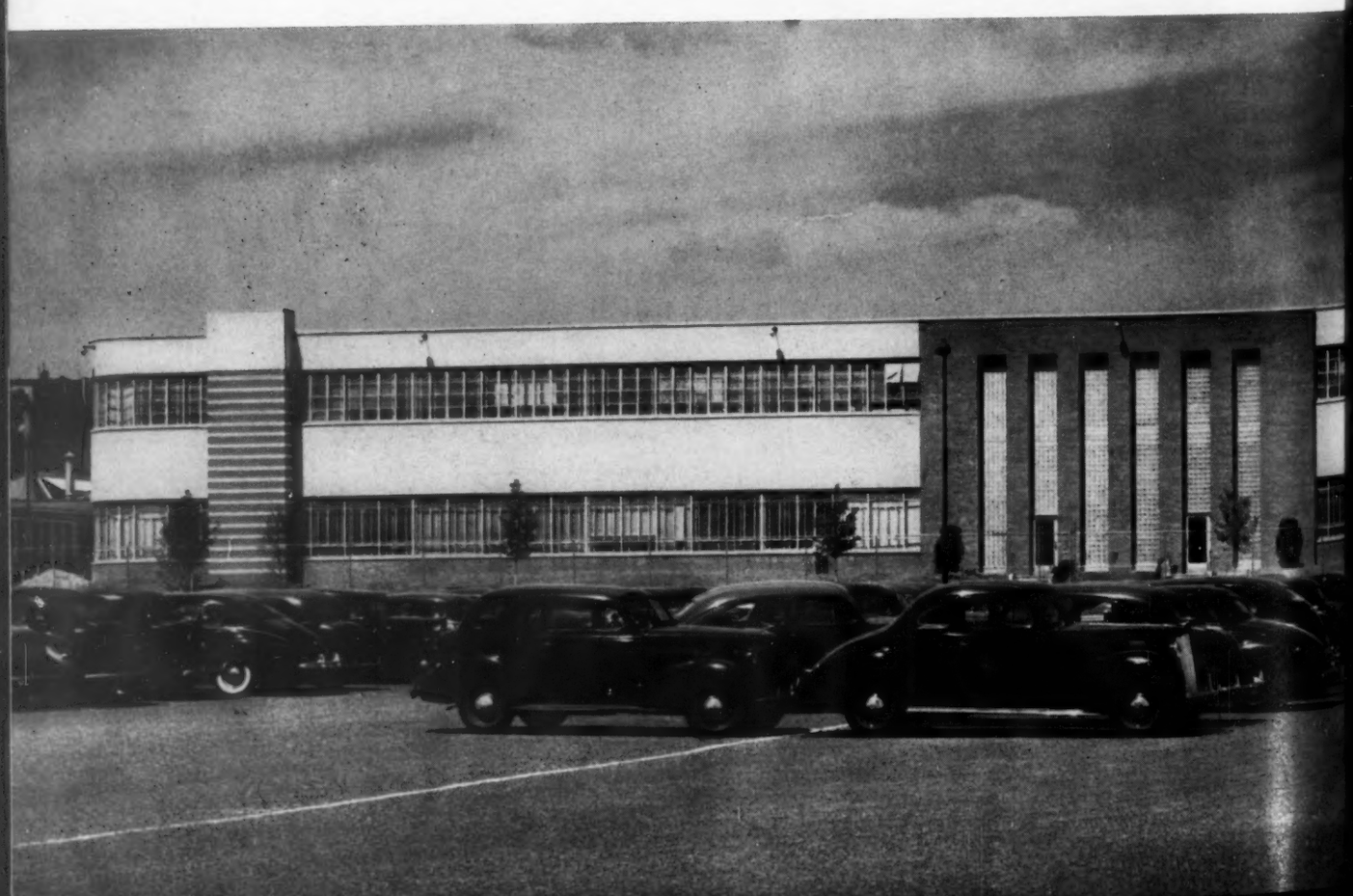


The cafeteria is a light-flooded room designed for efficient handling of large numbers of diners. One cantilevered slab of the novel roof construction is clearly seen in the section extending in from the window wall.



Walter Kidde Constructors, Inc.,

Engineers and Builders



The Face That a War Plant Presents to the World

J. Floyd Yewell,
Architect

This structure contains administrative offices and service facilities for an extensive, single-story factory building at the rear. The two-story portion consists of executive offices (at either side of the circular corner elements), drafting rooms (left-hand end of the ground floor), kitchen, cafeteria, and dining rooms (entire second floor), and office workers' locker and wash rooms (immediately adjoining the entrance at the center). The rows of steel casement sash are set into walls faced with buff brick; bands of limestone separate the red-brick courses in the end piers. The roof is of precast slabs surfaced with built-up roofing. Office space, cafeteria and dining rooms are completely air-conditioned, employing a split system, with concealed radiation under all windows. Fluorescent lighting is used throughout, furnishing 50 foot candles in the office portion of the building and 35 foot candles in the factory proper.

Photos by Rodney McCay Morgan

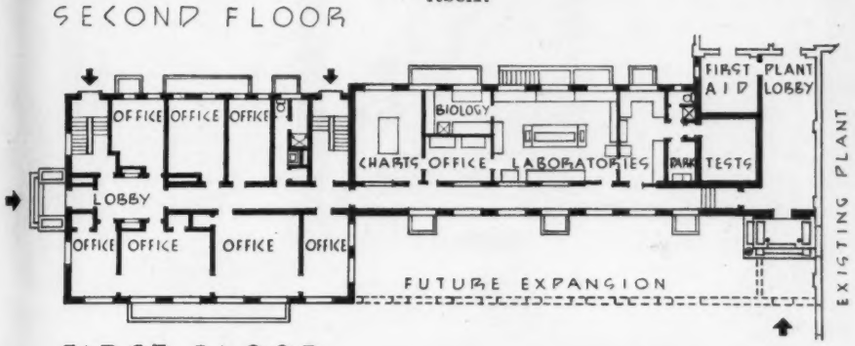
Planned for Expansion — Plant Offices and Laboratory, Plattsburg, N.Y.

Francis W. Roudebush,
Hugh McDonald Martin,
Architects

Expanded operations of the Berst-Forster-Dixfield Company, manufacturers of paper and wood-pulp products, necessitated construction of a wing to house business offices and a research and testing laboratory, with attendant office space, chart room, and dark room. The site, adjoining the main plant, was a triangular strip, much of which was already occupied by essential utilities—pipe trenches, conduits, and the plant water tower.

SECOND FLOOR

The solution is a narrow block organized along the free side of this strip. On both first and second floors, provision is made for future expansion—to almost double the present enclosed space—without moving existing facilities. At the basement level is a series of storage rooms and space for heating and air-conditioning equipment. The forthright layout of the other two floors speaks for itself.



FIRST FLOOR

Roudebush and Martin,

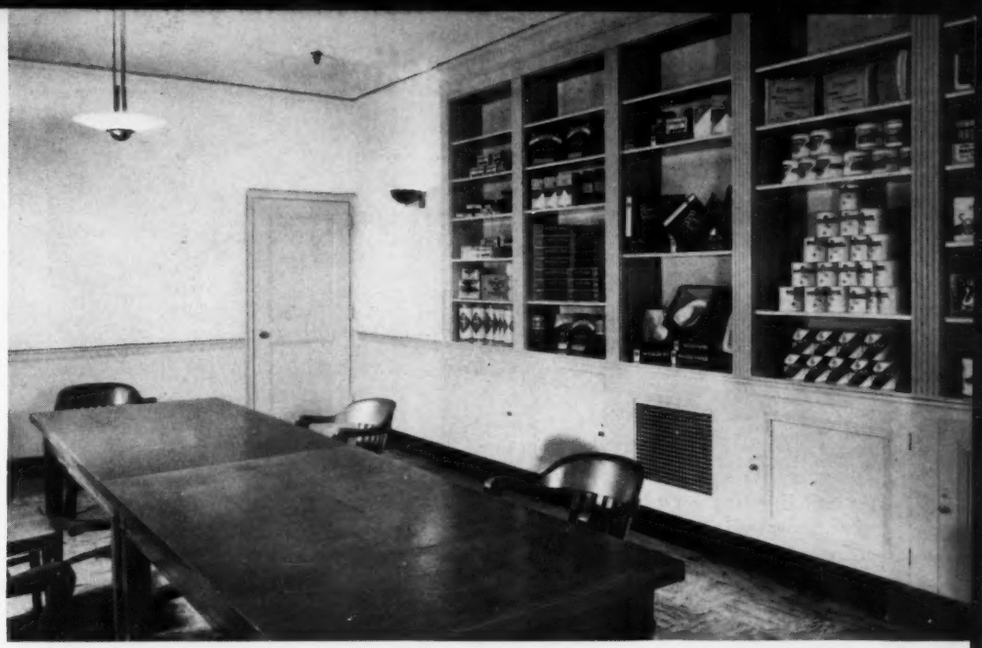
Architects

On the second floor, the control office commands the entire general work area.

Photos by Rodney McCay Morgan

Materials and structural system were chosen for their local adaptability. Both exterior and main interior walls are brick bearing walls; interior divisions—of the laboratory and of the second-floor control office—are movable steel and glass units. Floors are of concrete arch construction, surfaced with rubber tile.

In the office section, walls and ceilings have a plaster finish; the laboratory walls are painted brick. The building roof is composition applied to concrete slabs, supported by steel bar joists. Forced, humidified ventilation is provided throughout, with steam heat supplied by the company plant. An indication of the care and economy with which the building was designed is the fact that cost of the complete structure (excluding portable equipment) came within thirty dollars of the estimates.



Second-floor conference room

Research and testing laboratory

Stair detail and display niche in the ground-floor lobby

Industrial Lighting Practice

by Cecil I. Cady

Engineer, of the firm of Voorhees, Walker, Foley and Smith

The war has brought a new era in factory lighting. Old factories have been transformed, and gigantic new factories have been built to turn out staggering quantities of new products by new processes manned by new personnel. Under the spur of absolute necessity to roll out a continuous flow of "enough . . . on time," little short of optimum lighting standards have been countenanced.

New types of roof and wall construction have been developed to raise the distribution of daylight; to provide excellent artificial light, vastly improved electric lamps and fixtures and new techniques of application have appeared. New building-surface finishes conserve the light for service rather than losing it by absorption.

And all of this concentrated development, focused on "winning the war with production" has brought a highly significant by-product, a gain which heralds a hopeful new age in industrial working conditions. The worker, whether man or woman, works better, is healthier, subject to fewer hazards, is less physically and nervously tired at the end of the day than with the old low-lighting intensities. Eyestrain and the associated headaches and stomach troubles are reduced. Indeed, records show that good lighting impels the worker, unconsciously, to work faster, to make fewer mistakes. Thus, the worker not only produces more with less effort, but he is happier doing it. Everyone gains.

Objectives

In the illustrations accompanying this article, several typical examples of recent factory installations are shown. Before discussing these, though, it may be profitable to ask: What is the primary objective in designing an industrial lighting system? Briefly, it is to provide sufficient light of acceptable quality to enable the worker to perform his task safely, efficiently and comfortably.

To accomplish this objective, the source of light, whether natural or artificial, must be distributed so that the shape, size, and color of the work object is in contrast with its surroundings. The light reflected from the object must enter the eye and register a characteristic image on the retina. The quantity, brightness, and color of the light must cause the image to produce a prompt and accurate stimulus in the nerve system connecting the retina to the brain, thus enabling the brain to recognize the object. As is clear, this business of "seeing" is a complex operation involving not only physical laws of light behavior, but also physiological and psychological reactions of the human body.

In a factory, the main seeing task may be to focus on a point or a small area of surface, or to observe the action of a tool or the fitting together of two pieces of material. A secondary seeing task may be the manipulation of various machine controls or hand tools which the eye must perceive the instant attention is momentarily diverted from the main task. So, the lighting must enable the worker to see with clarity, accuracy, and speed. It should guide his eye and attention to the essential (focal) point of interest.

As to expense, let me paraphrase an old saying: "One pays for good lighting; why not have it?" Due to the efficiency of present-day light sources, the amortized first costs and operating costs of high-level lighting are infinitesimal, compared to the costs of the process labor and materials for which the lighting is supplied. Good lighting is economic as well as humanitarian. The war-production experience of plant managers and workers will cause them to insist on equal or better lighting in postwar factories.

What is good lighting? Consider for a moment some things which militate against seeing clearly, accurately, speedily, and comfortably. First, there is a kind of camouflage lighting, a deception of light and shadow, irregular areas of light and shade, irregular blocks of color, designed with the purpose of confusing the observer. The present war discovers fighting men with faces, hands, clothes, and weapons spotted with color to simulate shadows and natural objects in order to prevent their discovery by the enemy observer. In some factories in the past, the "lighting" has worked in a similar manner, leaving indefinite and distorting areas of light and shadow. Under such conditions, the worker must consciously or unconsciously make a definite physical and nervous effort to focus his attention in order to see the work in hand.

Another enemy of good lighting is glare, a knockout blow to the eye. In a seeming paradox, if the lighting level of the whole field of vision is increased to perhaps one fiftieth of the brightness of the glare area, the eye adjusts itself and tolerates the bright source. An everyday example is the relative offense of a bright automobile headlight at night and in the daytime. In fact, glare is frequently a matter of excessive brightness contrasts in the field of vision rather than any fixed light value. The unshielded bare light source, and the direct rays of the sun through windows are our worst offenders as glare-producers.

Then, there is a kind of "detour" lighting due to lack of contrast between surfaces that fails to fix the attention. The eye ranges at random before focusing on the point of action. Where sufficient light is present, the necessary contrast may be created through scientific use of color.

Factory Lighting

In good factory lighting, the entire environment of the worker should be lighted to a level where all objects in the field of vision are clearly discerned. A variation of the order of 20 to 1 in brightness between areas in the field of vision may be comfortable, but light sources, including windows, with a brightness of say 100 times the room brightness should be shielded in some manner to pre-

The editors thank the following organizations and publications for the use of the photographs that illustrate this article: The Austin Co., Benjamin Electric Manufacturing Co., E. I. DuPont DeNemours & Co., Inc., Electrical Contracting, General Electric Co., Holophane Co., Illuminating Engineering Society, Sylvania Electric Products Inc., Westinghouse Electric and Manufacturing Co.

vent such direct light impinging on the eye.

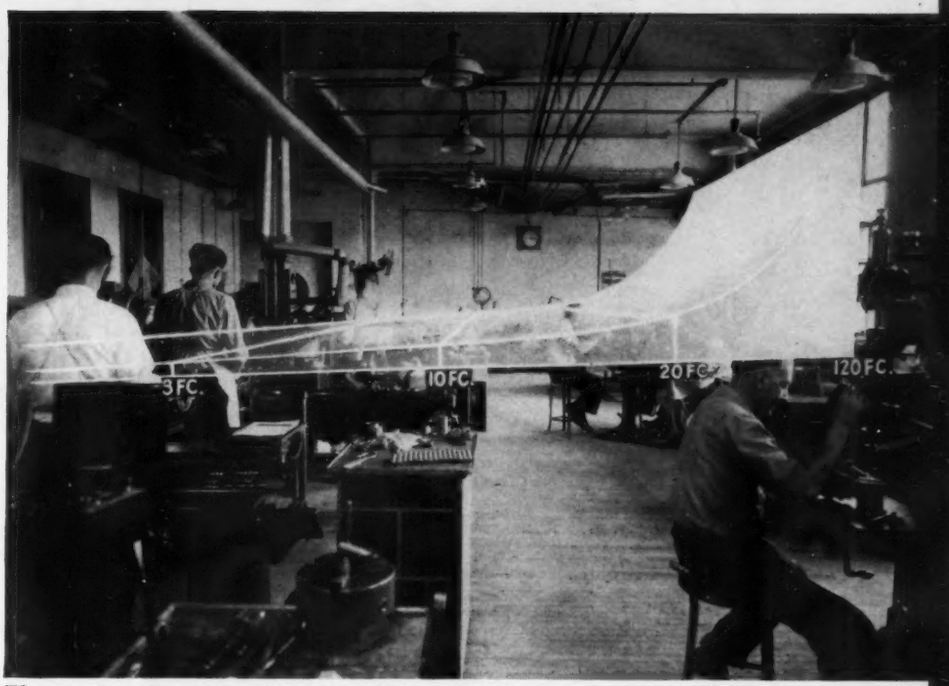
Modern factory buildings in daytime operation are lighted by daylight, a combination of daylight and electric light, or, in the case of windowless factories, entirely by electric light. Each system has its advocate.

Many still feel that no artificial light equals daylight. Much study has been given to the design of industrial buildings in order to utilize natural light to the full. Modern single-story buildings have been built with sawtooth roof construction; with high monitors, and with skylights that have a glass area equal to 30 percent of the floor area. Multi-story buildings have been built with high ceilings and walls largely of glass or glass block.

It is important to note that for buildings in which daylight is used, the amount and color quality of the light varies not only with changing weather conditions, but with the hour of the day and the season of the year.

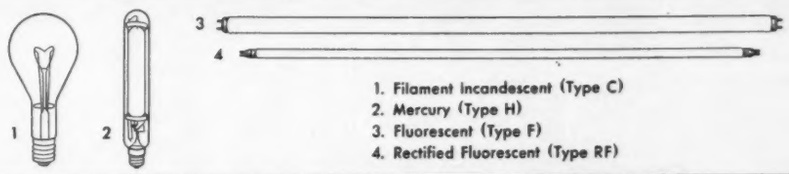
Records and studies of the Weather Bureau and of the lighting profession showed, over a three-year period, approximately one-third of the daytime work hours were clear, one-third cloudy, and one-third partly cloudy. This data, based on average conditions in twelve typical industrial regions from coast to coast, is entirely typical for the northeastern seaboard area. On a typical clear June day in New York City, the daylight intensity in the early morning and late afternoon work periods is approximately one-third of the midday intensity, as measured by light from the north sky.

These variations in daylight supply generally necessitate use of electric light to a substantial extent even in well designed "daylight" buildings. Advocates of windowless buildings emphasize this point and add that monitors, skylights, and windows are expensive in both first cost and maintenance and that they cause large heat gain in summer and loss in winter. Their answer is to do away with



The overlay shows the character of light distribution from a wall window.

TYPES OF LAMPS FOR FACTORY LIGHTING



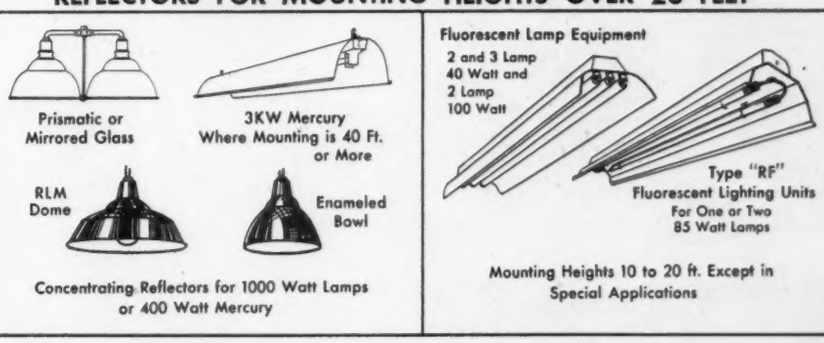
1. Filament Incandescent (Type C)
2. Mercury (Type H)
3. Fluorescent (Type F)
4. Rectified Fluorescent (Type RF)

POSTWAR LAMPS RECENTLY ANNOUNCED

CIRCULAR FLUORESCENT LAMPS Sizes to be produced and current consumption			LONG THIN FLUORESCENT LAMPS Sizes to be produced	
Approx. Overall Outside Diameter of Circle	Maximum Tube Size	Approx. Watts	Length Including Sockets	Approx. Tube Diameter
8½ in.	1¼ in.	20	5½ ft.	½ in.
12¼ in.	1¼ in.	30	5½ ft.	¾ in.
16 in.	1¼ - 1½ in.	40	5½ ft.	1 in.
			7½ - 8 ft.	¾ in.

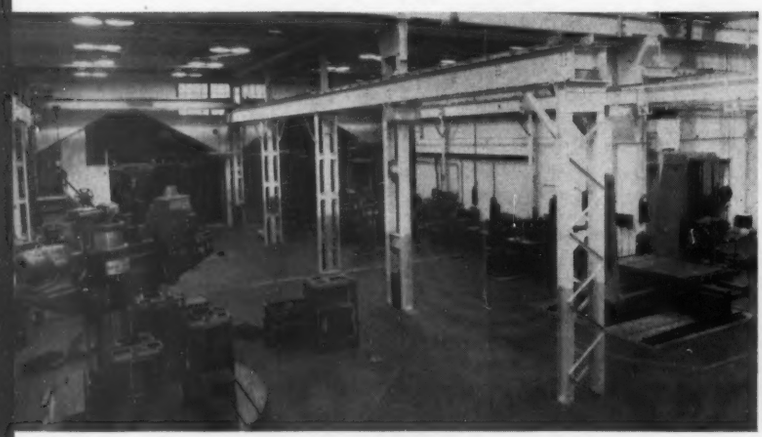
REFLECTORS FOR FILAMENT INCANDESCENT LAMPS (TYPE C) EXCEPT AS NOTED (MOUNTING HEIGHT 10 TO 20 FT. ABOVE FLOOR)

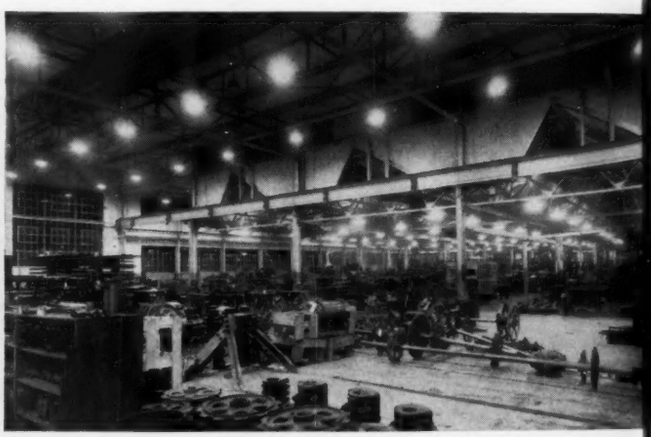
REFLECTORS FOR MOUNTING HEIGHTS OVER 20 FEET


Prismatic or Mirrored Glass
3KW Mercury Where Mounting is 40 Ft. or More
RLM Dome
Enameled Bowl
Concentrating Reflectors for 1000 Watt Lamps or 400 Watt Mercury
Fluorescent Lamp Equipment
2 and 3 Lamp 40 Watt and 2 Lamp 100 Watt
Type "RF" Fluorescent Lighting Units For One or Two 85 Watt Lamps
Mounting Heights 10 to 20 ft. Except in Special Applications

Flexibility of incandescent filament lamps and reflectors is illustrated in the three photographs above. At left, 200-watt lamps are used, spaced 10′ by 10′ and mounted 10′ above the floor to produce 14 to 20 foot candles. A refurbished old factory, it is representative of many which may be relighted and painted in light colors for profitable use. 500-watt lamps are used in the installation shown in the central photograph. Spaced 16′ by 20′, these are mounted 23′ above the floor and produce 20 foot candles.

The three photographs in the row below show modern factory buildings with high-intensity lighting using mercury Type H lamps. In the installation at left, each 400-watt mercury unit is accompanied by 600 watts of incandescent filament lamps in an adjoining reflector. The central photograph shows an instance where there are two fixtures with mercury lamps for every incandescent lamp fixture. Both arrangements are in common use for blending light from two sources.





The two pictures immediately below illustrate two types of installations employing fluorescent units; at left, the units are placed end to end to form continuous rows, A recent development in equipping installations of this type is the "Forlamp" ballast, by means of which each group of four lamps is operated directly from a 460-volt, three-phase power bus. This device effects considerable savings in both wiring costs and in critical materials. The photograph of the office work area shows the use of single-lamp units, at low-level mounting, to provide 36.4 foot candles. This type of system is useful to meet requirements on and below mezzanines and in special process departments.

Here, several silver bowl lamps within one reflector give well diffused high-level lighting in a small shop. But the dark dado, floor, and benches absorb a lot of unused, but paid-for light. After repainting with selected light-reflecting paints, the lighting value of a similar room was nearly doubled.

The illustration below shows the use of 3,000-watt mercury lamps, mounted at 34' height to give the unusual lighting intensity of 110 foot candles. Interiors of all three of these buildings are finished in light colors. Notice the large window, skylight, and monitor windows in the photos below and at center.

The advantage of a white cement floor is obvious in the photograph below. In these large, undivided buildings, some hundreds of feet wide and thousands of feet long, overall lighting efficiency is comparatively high; the light flux emitted by the fixtures is reflected many times by the aluminum covering on the planes and by white floors. Relatively little is absorbed by walls.

all daylight and substitute a system involving complete control of lighting, heating, ventilation or air conditioning.

Both types of buildings are shown in the illustrations.

Basic Types of Lamps

Current factory electric lighting may be classified by the type of lamp and fixture used, by the mounting height of the light unit, or by the light intensity. The lamps and fixtures available have been severely restricted by WPB in order to conserve aluminum, copper, steel, and zinc. This has resulted in the temporary elimination of many industrial lighting units of considerable merit and drastic redesign of others. Glass and plastic reflectors have been extensively used; steel reflectors have been reduced in gauge or replaced by non-metallic materials.

The principal lamps and fixture types now in use are shown in diagrams. They include the filament incandescent lamp (Type C) in voltages from 60 to 1500 watts, high intensity mercury lamps (Type H) in 400-watt and 3000-watt ratings, the fluorescent lamp (Type F) in 40-watt and 100-watt ratings and the rectified fluorescent mercury lamp (Type RF) in 85-watt rating.

The filament incandescent lamp is used in both ordinary and high mounting heights. For all-around usefulness and light intensities up to 15 to 20 foot candles, it has the advantages of low first cost, simplicity, and ruggedness. Furthermore, it is available in a wide range of sizes and, within limits, lamps of one size may be substituted for another, giving flexibility not readily obtainable with some other types.

The standardized RLM porcelain enamel steel reflectors, prismatic glass or mirrored glass reflectors for filament incandescent lamps are made in a variety of shapes and sizes to suit the lighting service conditions and lamp sizes, as shown (page 57).

The high pressure mercury lamp (Type H) was developed in 1935 and has substantially twice the light output for the same current consumption as the filament incandescent lamp. It is excessively bright and must be well shielded from the eye. Because of its high output efficiency and its large wattage it is applicable to mounting heights of 20 feet or more for the 400-watt size and 40 feet for the 3000-watt size.

These lamps, with the necessary special transformer equipment, are higher in first cost than filament incandescent lamps. This is compensated for, however, by their higher light output. If the building is air

conditioned, their lower heat emission is also important. Thus, their yearly overall cost is generally favorable. The light from these lamps is principally in the yellow-green (blue) part of the spectrum. The eye is especially responsive in this spectrum area, and these units are particularly valuable for illumination of precision work where color is not a factor.

Frequently, filament incandescent lamps are used in conjunction with mercury lamps, either in the same fixture or in alternate fixtures, in order to supply a red component to the light. The mercury lamps have an objectionable feature, where current interruptions occur from lightning storms in some parts of the country: they will not relight after current interruption until they have cooled off. For this reason, it is customary to use at least some incandescent filament lamps in any mercury installation as insurance that there will be some light immediately on restoration of current after an interruption.

Reflectors for the 400-watt mercury lamp are of porcelain enamel steel or prismatic or mirrored glass, specially designed to distribute the light from high mounting heights. Reflectors for the 3000-watt mercury lamp are of porcelain enamel steel for high mounting heights.

The fluorescent lamp (Type F) was introduced in 1938 and has been available in a variety of sizes and colors. At the present time, its use in industry is limited to the 40-watt and 100-watt sizes, in either white or soft white. The limitation on use of critical materials has caused radical changes in the fixture design for these lamps. The "Victory Model" shown in the diagram on Page 57 is typical of a non-metallic fixture which may be equipped with either two or three lamps and installed as a single unit or in tandem with others to form continuous-fixture units. Continuous row lighting effects economies in wiring and installation costs where numerous fixtures for high lighting intensities are used.

Type F fluorescent lamp fixtures are used where higher light intensities are desired than are obtainable economically with filament incandescent lamps. The dividing line economically and psychologically is somewhat elastic. The surface brightness of the fluorescent lamp is relatively low as compared with other sources, although it should not be unshielded in the field of vision except for occasional seeing. On the other hand, because of this low surface brightness, the emission of light per unit of volume is low compared with other light sources. This results in bulky fixtures. Then, too, where fluorescent fixtures must be hung at high mounting heights, their efficiency is reduced. Other factors, however, may influence their choice even at mounting heights up to 35 feet—for instance, where a worker must look up much of the time to work on the underside of airplane body and wing surfaces. He is, therefore, constantly looking directly at the light sources, and the low brightness of the fluorescent lamp is believed to be less objectionable than the higher brightness of the other sources available. The color quality of light from these lamps more nearly matches daylight color values than does the light from any other except certain specialized ones.

The rectified fluorescent lamp (Type RF) is a refined development of the Cooper Hewitt mercury vapor lamp. It is rated at 85 watts, and one or two lamps are installed in a trough reflector as needed for the light intensity desired.

The unit is more compact than the fluorescent (Type F) of equivalent output, and the efficiency is comparable with that of the Type H mercury lamp. Its wattage and surface brightness are much lower than for the Type H lamps. These factors make it suitable for normal mounting heights of from 10 to 20 feet. While the color quality is characteristically yellow-green, it is claimed that there is sufficient red to make it generally satisfactory for high intensity lighting for typical precision tasks; for example in a machine shop or textile mill. It has found wide acceptance where high light intensities are required with moderate mounting heights and where color discrimination is not important.

All of the mercury lamps (Type H and RF) require special transformers which are relatively high in first cost. This is offset, where lamps are burned many hours in the year, by their low current consumption and long life—3,000 hours or more. And they maintain their high operating efficiencies during their entire lives. This is not the case with filament incandescent (Type C) lamps and fluorescent (Type F) types, which, particularly near the end of their rated lives, decline sharply in efficiency.

The question of maintenance of lighting equipment will not be discussed in detail, but it is important that suitable facilities be provided for servicing lighting units at regular intervals. Clean lamps and reflectors are just as important as clean windows—perhaps more so. Because with dirty windows, one can turn on the electric lights to make up the light deficiency, but a dirty lamp or reflector must be replaced or cleaned to function as planned.

What About Color?

The lighting units themselves are but part of the story. What happens to the light after it leaves the light fixture?

A large part of it falls on the building walls, floor, and ceiling. Another large part falls on the machinery and product in process. The amount that is immediately absorbed and lost is frequently the determining factor in whether the lighting is good or bad. For some time, most have agreed with the general premise that upper walls and ceiling of a factory should be light in color. Now, however, architects, engineers and plant managers are increasingly stressing the need for light-reflecting colors for lower walls and floor and fixed equipment. No longer is it considered necessary to use dark floors and a dark dado so the dirt will not be seen. (The introduction of special materials for whitening floors is well described in the July, 1942, issue of PENCIL POINTS.)

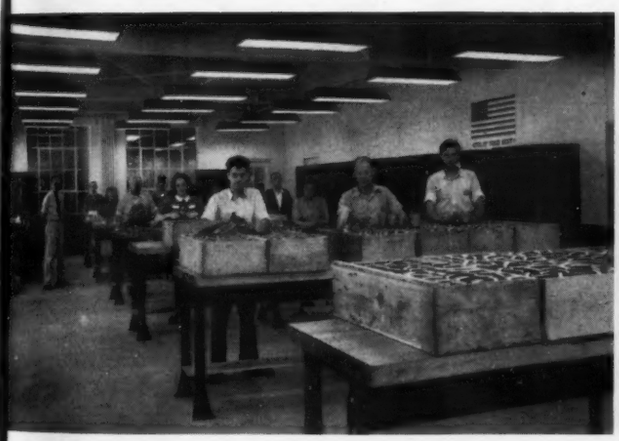
The use of attention-attracting colors on operating levers and other important parts of machines has been put in successful practice. The multitude of war workers who have experienced these improved working conditions will expect to find them extended in the postwar plants. The growing activity of labor-management committees will undoubtedly be a strong influence for such improvements for the comfort, well-being, and greater efficiency of the worker.

New Lamp Developments

Lamp-research laboratories have developed dozens of new light sources and lamps for special applications in the war effort. These have been developed for military purposes and are still more or less secret. While they have been used principally on planes, ships, and for other combat purposes, some may be the forerunner of new lamps for factory lighting.

Information is trickling out that the fluorescent lamp (Type F) in particular will be greatly improved by new starting and control equipment. New sizes have already been announced as listed on Page 57. These even include circular shapes, which may be combined with straight lamps in patterns to form a design feature. Good news, too, is the development of the cold cathode fluorescent lamp which can be installed in long lengths and requires less auxiliary control.

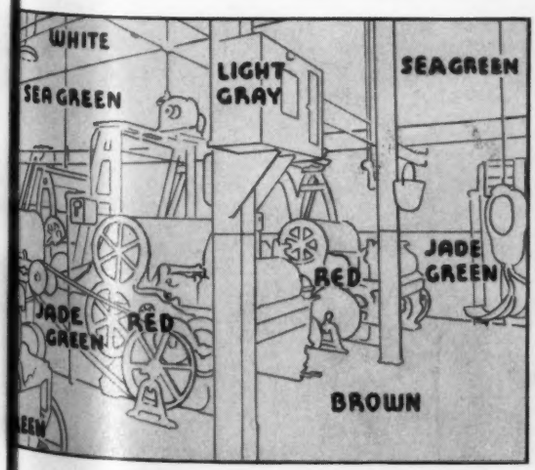
Two illustrations of fluorescent lighting systems: at left, is a typical modern fluorescent installation at normal fixture mounting height. The photograph at right shows a conversion lighting job, typical of many that will come up in the postwar period. Fluorescent (Type F) lamps in individual reflectors are installed to give a substantially uniform general lighting intensity of twice the old incandescent system without increase of electrical load. This permits the modernizing of the lighting system without the need for replacing service equipment, feeders, and panel boards in existing buildings.

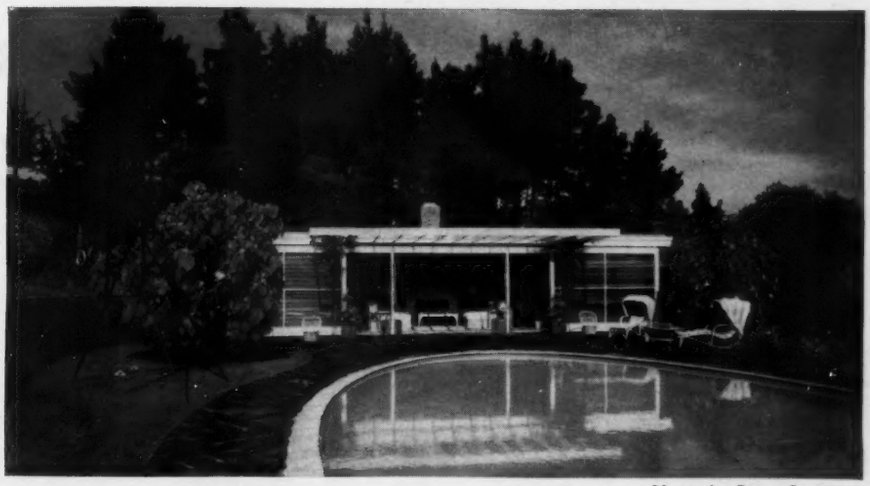


this experimental powder packing room in a govern-ent arsenal, high lighting intensities are used. The tures are dust proof and vapor proof (to exclude wder), and rated as explosion proof, as well. The hting intensity is 55 foot candles.

Here is illustrated the use of the rectified fluorescent (Type RF) lamp for an average machine-shop mounting height. The average illumination is 45 foot candles.

The two photographs below illustrate the use of light-reflecting paints not only on walls, floors and ceiling, but on machinery as well. Colors are used to distinguish "safe" from hazardous machine parts and to focus attention on operating levers and work areas. In addition to improved seeing comfort, the use of color is said to improve the worker's morale. Certainly it promotes good housekeeping.



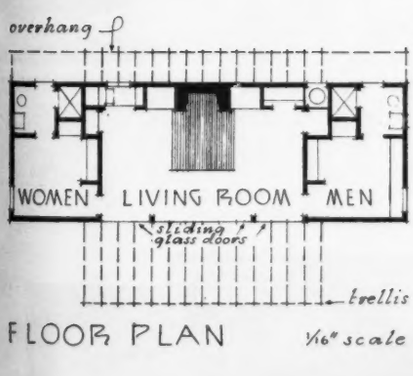


Photos by Roger Sturtevant

A Private Bath House That Is NOT "A Cutey-Pie Little Number"

William Wilson Wurster, A. I. A.,
Architect

Thomas D. Church,
Landscape Architect



FLOOR PLAN 1/16" scale

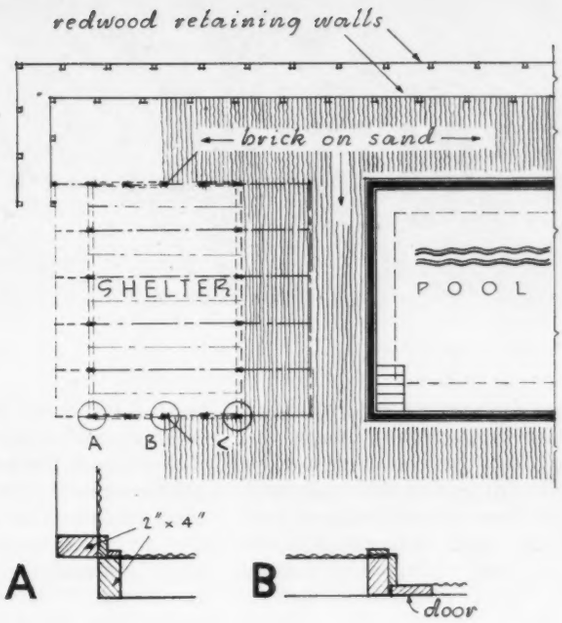
The quotation is the architect's, but we are happy to set it in boldface type. The restricted world where such things as private bath houses exist is so full of miniature temples of Venus, Dolly Dingle cottages, and itty-bitty editions of the "big house" that it is a delight to find a satisfactory and straightforward solution to the problem. The program for this California bath house called for the usual facilities, plus an open, pool-side living and dining room, complete with electrical cooking equipment. The architect comments: "It has always seemed to me that pools make nearby enclosed space unattractive if at all dark; I, therefore, strove to work out a scheme that should not have a dank air." To assist in the brightening process, the entire front four feet of the living room ceiling (unfortunately not caught in the photographs) is a skylight. The white-painted trim and frame for the sliding doors are striking against the oiled redwood wall surfaces. Almost perfect integration exists, we'd say, between the house and Thomas Church's intelligent landscape design that uses absorbent wood block paving for the "dripping area" bordering the oval pool.

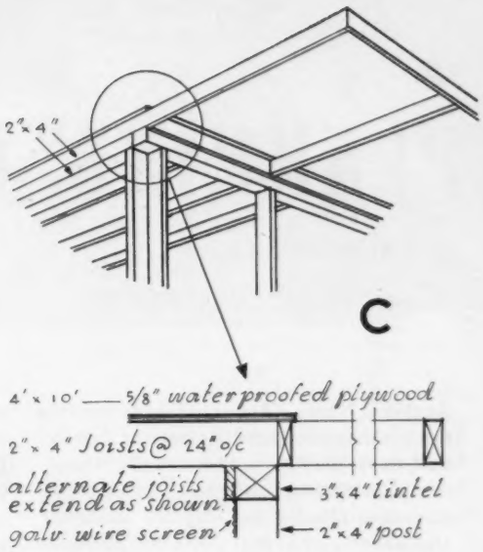
Photos by Roger Sturtevant

Poolside Shelter, Saratoga, Calif.

William Wilson Wurster, A.I.A., Architect

Thomas D. Church, Landscape Architect





There are wasps in Saratoga
And the sun gets plenty hot;
But within this screened enclosure
People sit, and wasps are not

Though we state the explanation of this disarming bit of architecture in a jingle (maybe we should run a competition for frozen music to accompany it), it isn't because we feel that the structure is inconsequential, but because it argues its own good case without any of our help. The problem: To design a sun shelter, alongside a swimming pool, where spectators could sit in comfort, watch the swimming and talk with the swimmers, and—when food is brought—be spared the jealousies of wasps. Solution: A brick platform, enclosed in a frame of redwood two-by-fours and roofed with oiled redwood waterproof plywood; one door; all tightly screened. There's just something about a simple problem so simply solved and so agreeably proportioned that makes us feel like singing.

PLANNING IS POLITICS . . . *but* . . .

by Catherine Bauer

Author's Note: *This article was written for the* Architectural Review *of London and, in spite of some revision for American publication, still shows evidence of direction toward an English audience. However, since the postwar planning situation in England is distinguished from that in America chiefly by being farther advanced, in public awareness as well as in professional boldness, the points I have tried to make may have at least equal validity on this side of the Atlantic.* —*C.B.*

For a solid fortnight, I have been reading English publications on postwar planning and housing. And now, with the 2-foot stack topped by the County of London Plan all duly checked off, I find myself regarding the lot with admiration, hope, and a vague but persistent worry, about equally mingled.

The volume of output alone is enough to inspire not only admiration but respectful envy on the part of any American interested in the field. We have little to place alongside, and much of that seems narrow, negative, dull, or opportunist by comparison. (Lewis Mumford's pamphlet, *The Social Foundations of Postwar Building,* for instance, is published in England but not in the U. S. A.)

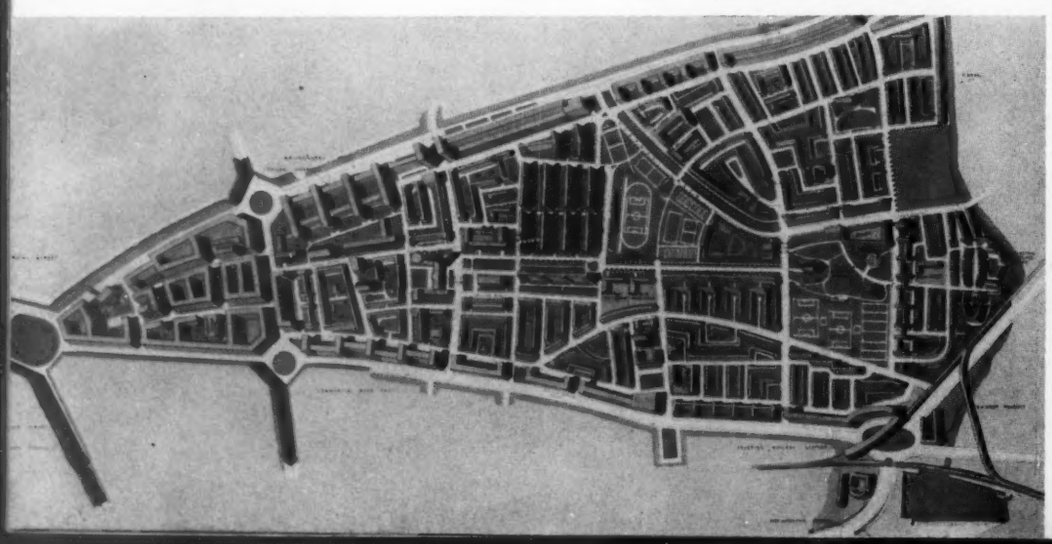
Good printing, literate sentences and clear ideas cogently expressed are in the best English tradition of social analysis. And on top of that an earnest sincerity comes through, a sense of vital urgency that past planning literature too often lacked. If the blitz did it, the shock of realization that there might not have been an England, then that explains the secret guilty regret deep within many American liberals, that we missed the experience.

Toward a system of greenbelts with connecting "fingers," to serve and protect the reconstructed districts of the new plan. (Drawing from "County of London Plan, 1943")

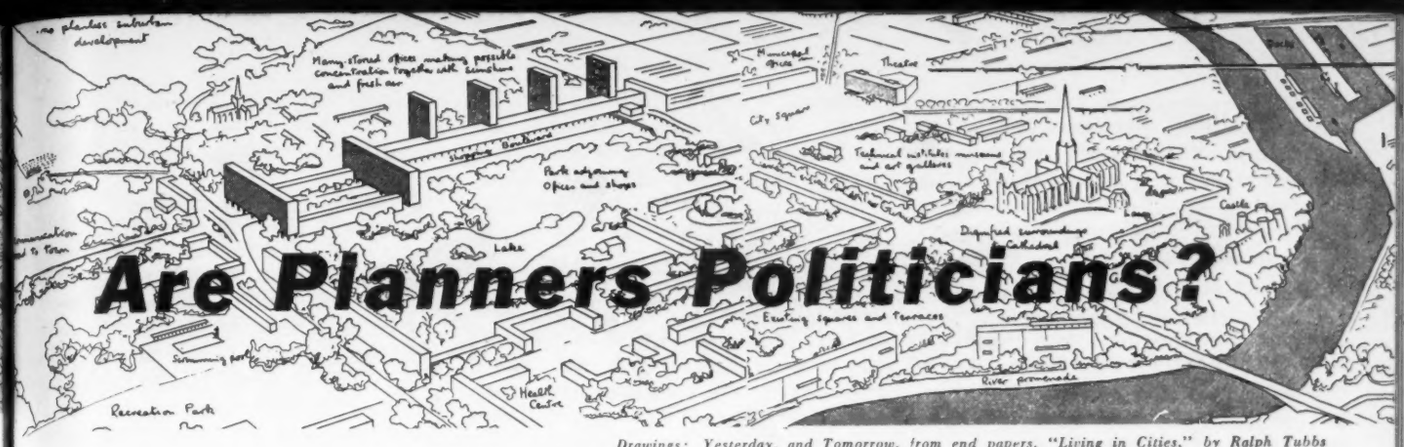
The degree of unanimity on general purpose—or at least on the nature of the problem—among people and groups whom I had always thought to be either opposed or totally insulated from each other, is very impressive. It probably does not seem so to them. But at this distance the revitalized Garden City movement and its traditional enemy, the sophisticated left-wing architects, the ponderously technical Royal Commission Reports and the bright popular pamphlets on land and cities; the portentous warnings of the agriculturists, the brave efforts toward regional planning, and the concrete proposals for London, Birmingham, and Coventry; the social-workers' studies of head-lice among evacuees and the *Economist's* hard-boiled analysis of the housing industry; the routine reports of the Housing Centre and the National Housing and Town Planning Council and, yes, even the grandly impervious schemes of the Royal Academy, and of those newer academicians who envision a sort of vacuum-packed revolution, untouched by human hands . . . all seem to be asking the same questions. And even arriving at many of the same answers, however varied the language.

The general tone is positive. Necks vie with each other to stick out the farthest. Such a ringing statement as that of the London Regional Reconstruction Committee of the Royal Institute of British Architects, that "there can be no place in the Councils of Peace for the timid, the disinterested or the obstructionist", would be unthinkable from the American Institute of Architects, as would the examples of fresh modern design used to illustrate the RIBA's *Rebuilding Britain* publications.

The fact that it *can* happen, that



Reconstruction plan for a 1,500-acre area in Stepney, at 136 persons per acre net, plus 4 acres of open space per 1,000 persons. Multi-story elevator apartments and row houses are included. (Drawings in center of page and at left from "County of London Plan, 1943")



Drawings: Yesterday, and Tomorrow, from end papers, "Living in Cities," by Ralph Tubbs

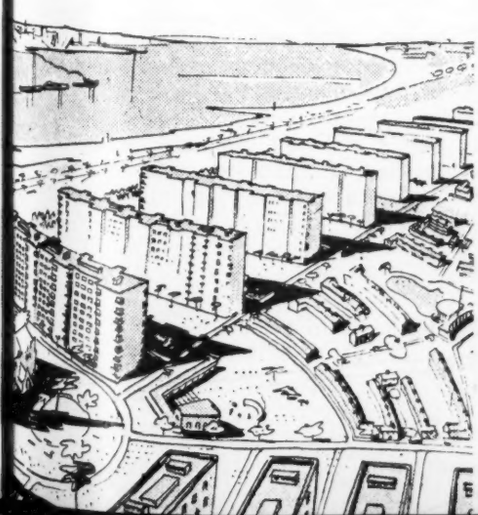
those professionally concerned can at least get together on the axiom that proper land-use is of universal importance transcending any private interest, should give hope and stimulus to us in America. And we need it, not only because we also face crises in land-use, but because this nation may undergo a period of deep reaction, during which American progressives will have to seek strength and inspiration wherever they can find it, abroad if not at home.

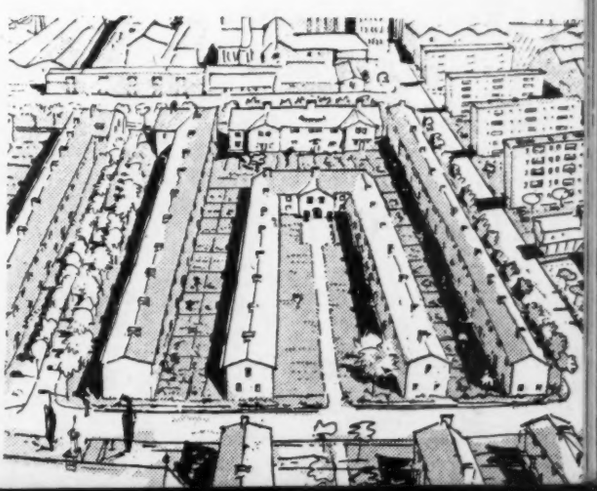
The English seem to have resolved and forgotten at last the crude conflict that has for a generation made schizophrenia the occupational disease of planners on both sides of the Atlantic: the conflict between those who consider the purpose of city planning to be the improvement of the general welfare and amenity, and those who set out to preserve property owners from the degrading and devaluing influence of hoi polloi. The development of class-zoning in the U. S. A. has made one wonder sometimes if the ideal democracy as envisioned by many professional planners might not consist solely of "protected suburbs" where, by careful gradations, each economic group from Junior Executives upward would be separately embalmed behind standard set-backs, driving back and forth to work on parkways designed to screen their Nordic sensibilities from the sights and smells of the intervening slum areas. Even the public housers have not been untouched by this idolum. The newer version of this conflict, currently confusing the American public, is of course the "Urban Redevelopment" movement. In the sacred name of "master plans", "bold reconstruction", "saving cities", and whatnot, it is proposed to bail out with Federal subsidy the owners of slum and blighted property—*not* in order to rehouse their present tenants properly, but to stimulate another wave of speculative over-building for the well-to-do and thus, it is naively hoped, to turn the tide of decentralization and preserve down-town property values based on high densities and even higher hopes.

In this whole stack of English publications, there is not one evidence of any such confusion. The famous Royal Commission studies of population distribution and land-use—the *Barlow, Scott,* and *Uthwatt Reports*—are entirely concerned with the functional requirements of agriculture, healthy living, modern industry, and convenience of communication. They face squarely the decentralizing influence inherent in the development of automobiles and electric power, and their frank and open purpose is to prevent speculative profit in land, and to devalue slums. Indeed, the Uthwatt Report boils down to an effort to find just and democratic steps toward eventual nationalization of all land.

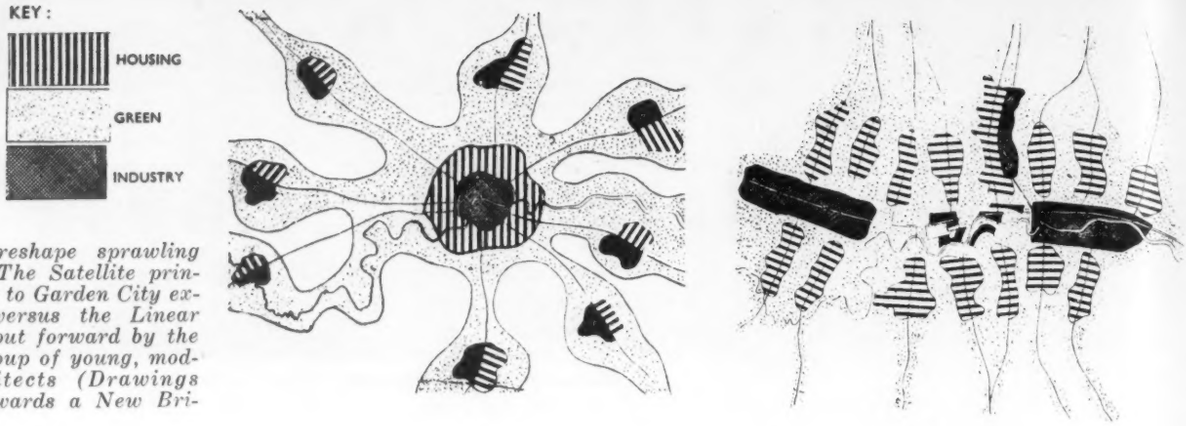
At the urban level the equally famed Plan for the County of London by Abercrombie and Forshaw also rests on honest functional arguments—indicated by the excellent divisions, Community, Metropolis, Machine—with no blurring qualifications based on relative land prices or status quo problems in County finances. Proposed residential densities, right or wrong (and there is much healthy argument on this score), are solely geared to questions of need in relation to work and recreation opportunity, and are supported by detailed analysis of resulting living standards.

The fact that restoration and protection of the historic neighborhood communities of London is a primary objective, the core of all elements of the plan, seems to me sound. If it is conservative, it is so in the sense of conservation of resources rather than any political connotation. (The Minister of Town and Country Planning characterized the Plan as "a happy combination of piety and revolution".) Superficially though I know London, if anyone had asked me to name its outstanding quality I would have said the distinction between one district and another—in name, in popular tradition, in group affiliation, in physical aspect. Most big cities simply have "good" and "bad" sections. And the all too clearly marked social and national neighborhoods in American cities, always shifting, represent no real physical attachment or responsibility for a *place* but rather





Apartments versus Houses: There is much opposition to the 136 to 200 persons-per-acre-net densities proposed for London's central areas, and the resulting high proportion of families rehoused in elevator apartments rather than traditional row houses. Meanwhile numerous polls indicate that at least 90 per cent of English families want houses with gardens. New York City officialdom duly accepts the 416 to 445 persons per net acre proposed for Metropolitan's Stuyvesant Town. (Drawings from "Your London Has a Plan")



How to reshape sprawling London? The Satellite principle, dear to Garden City exponents, versus the Linear principle put forward by the MARS group of young, modern architects (Drawings from "Towards a New Britain").

are imposed from without or result from the self-defense of minorities against discrimination.

The one social danger in such a course, that of crystallizing class distinctions more than ever, has been directly faced in the London Plan, and the concrete proposals for "a greater mingling of the different groups of London society" are among the best things embodied in the proposal. The fact that varied types, heights, and densities of buildings are recommended for each district, to meet a carefully studied variety of needs (again, whether they are correct in detail or not), also represents a great step ahead of blanket zoning. The principle that families with children, whatever their income, need more open space than do adult couples or single workers, even of highest income, is, again, applied common sense.

* * *

It seems clear, all in all, that England is undergoing a bona fide Intellectual Renaissance. But the epithet "intellectual" brings me to that vague and perhaps unfounded worry which somehow qualifies my enthusiasm for this impressive pile of literature.

It reads like a revolution . . . but is it real?

The Uthwatt proposals came out more than a year ago; the Barlow Report, at the beginning of the war . . . and still no legislative action to implement them has been taken by the Government.

A recent editorial in the *Economist* indicated that the Uthwatt Report "has now little chance of being adopted". True, two important new agencies, a Ministry of Works and a Ministry of Town and Country Planning, have been set up, but their respective Ministers sound irritably and suspiciously defensive when confronted by demands for action from local authorities. And even the most progressive local governments are powerless to proceed beyond paper plans, or even to adopt such plans, until basic national policy on land-use controls, on industrial location and agriculture, on regional government and housing (in some rough sense at least) is established. When, and in what form, is such policy likely to come forth?

Is there, perhaps, a partial explanation of this delay and growing uncertainty in the fact that these documents on my desk, every one of which contemplates basic changes in the entire social-economic structure of the nation, are almost entirely devoid of political ideas or even a political frame of reference? There are exceptions, of course, but mostly among lay writers without authority in the planning or architectural fields. And in some cases this gap may result from delicacy rather than naivete, while in others it is probably due to the unavoidable curbs of official status. Moreover, several of the pamphlets are quite brilliant instruments for general public education and stimulation. But on the other hand there are numerous implications and statements like the following from Dr. Gutkind's monumental treatise: "There is a fair chance that planning can be kept out of the party machinery, although the danger is not yet over. The heat of political emotions and slogans might well debase 'planning' . . . " Ominous nonsense.

Planning *is* politics, if it is anything more than mental gymnastics. And taking monetary profit out of land is revolutionary politics, whether advocated by a Hyde Park agitator or by a Royal Commission. It cannot *and should not* be decided by the experts and intellectuals alone, no matter how rational, eloquent, scientifically objective, high-minded, progressive, or correct they may be. Nor can it just be tacked onto the present social system as an isolated reform. If it comes at all, it is bound to be part of a great wave that will change a lot of other things even more. I have some sympathy with the caustic sneers of Sir Gwilym Gibbon for the "Utopian planners". He does at least understand that it is not only useless but irresponsible to make radical proposals without recognizing their revolutionary political implications.

Architects and planners in England and America, perhaps professional people in general, almost never use the word "politics" except in an invidious or deprecatory sense, although it is clearly the life-blood of democracy. Indeed, while reiterating constant regard for the latter institution, they tend to ignore the only basis for democracy acknowledged in our respective countries, the party system. (Nor do they propose anything else to replace it). And yet, as Herman Finer of the London School of Economics said in an excellent article, "The paramount, the indispensible authority in the planning process, has to come from the political parties. Planning [otherwise] cannot but be puny and rather academic . . . The cardinal responsibility rests with the parties, for that is where the power rests."

I may well be wrong. Perhaps these publications simply reflect the ultimate purpose and refined expression of a great popular movement already recognized and implemented by the parties. Perhaps the calm objective understatement is just "the English

TRANSPORT

way", too subtle and orderly to be understood by Americans who are used to tirades on every public issue.

But what *are* the party platforms with respect to physical reconstruction, land-use planning and housing? My information is scattered, and I hereby apologize in advance and with pleasure if my deductions err on the side of pessimism. But it seems clear that the Conservatives have no positive program at all, although their distinguished organ, the *London Times*, has taken an enlightened stand on many issues. A fairly recent 7-point Liberal program that I came on apparently includes nothing on land-use controls and only a vague reference to housing . . . although, again, one of their leading members, Sir Ernest Simon, advocates out-and-out land nationalization and a forthright housing policy. The Labour Party does have a statement on *Housing and Planning After the War*, which is quite strong on land nationalization and housing standards at least; and Lewis Silkin, a Labour M.P. from London, has done an excellent Fabian pamphlet on *The Nation's Land*. But there is little evidence that the unions or the cooperatives are really mobilizing their constituents to get action.

Mr. Finer says that among the different categories of postwar reform currently proposed, physical reconstruction is "not one that chiefly moves the man in the street". This is strange, since it touches him more directly and tangibly than any of the others except possibly social security. Can it really mean that workers are satisfied with their environment as it is? Hardly.

In the past, the progressive forces in England did an exemplary job of popular education and political organization for public housing and slum clearance—with the result that this is one element in reconstruction quite certain to go forward, with or without proper planning to make it effective. And for a while it looked as if an even better job had been done recently for social security in the Beveridge Plan—in any case enough to guarantee respectful consideration, even with qualifications, by the government. Is no one undertaking the same sort of responsible *political* work for land planning?

It is a curious and interesting fact that, of all British institutions, the Church seems to have taken its political responsibilities more seriously, and directed its forces more effectively toward progressive goals in the social field, than perhaps any other. *Malvern and After*, a leaflet introduced by the Archbishop of York, proposes that "far-reaching changes in the present system of land ownership are required. . . . In particular, the owner of the sites of cities has hardly any function that would not be as well or better performed by a public body, while he absorbs a great deal of wealth communally created. This is particularly true of those who own land on the outskirts of growing towns . . ."

* * *

But I have over-simplified the problem. Deeper than organization politics are the underlying social trends that reflect popular choice and desire —and the political and administrative framework which can best guide these forces toward the desired goals. The County of London Plan, to take an example, still seems to me primarily a static architectural or physical scheme, comprehensive and deeply social-minded though it is. The *dynamics* are lacking, somehow.

Take the matter of decentralization. Outstanding among metropolitan plans in its objectivity toward probable loss of population from the central districts, it nevertheless fails to face the overwhelming strength of the drive away from congestion toward houses-and-gardens and a natural environment. The Plan proposes the orderly removal of some 500,000 people, together with a proportionate amount of industry, from London's central congested areas. And yet, if the more advanced American experience with automobiles were fully interpreted, and the enormous centrifugal stimulus of war-time evacuation and central destruction allowed for, I believe it would be clear that many more than half a million will move out anyway, with or without a plan to guide them. As for the other end of decentralization, the London Plan is not nearly as bold or concrete as the Birmingham proposal to establish a self-sufficient satellite industrial town 20 or 30 miles out.

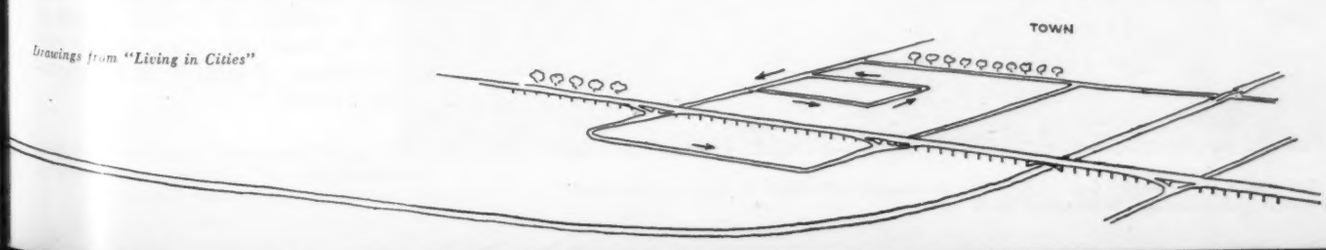
London County has serious limitations, of course, in planning for its future at the present moment. It cannot officially make a plan to include the entire London region, any more than New York could make decisions for northern New Jersey or western Connecticut. And it can take few positive steps of any kind until, as indicated earlier, there is an established national policy on certain broad but vital questions. Nevertheless, the County Plan would have been far more effective than it is had it included a clear analysis of its own limitations, of the *division of responsibility*—national, regional, local, *and* individual—necessary for progressive action.

If definition of the responsibilities at the regional and national level has been neglected, it has been totally ignored for the smaller unit—the district, neighborhood, or citizen's group. Perhaps every Londoner knows without being told just what his own job would be, or that of a District Council, in the reconstruction process. But perhaps on the other hand, an opportunity to stimulate democratic initiative and effective political action may have been lost.

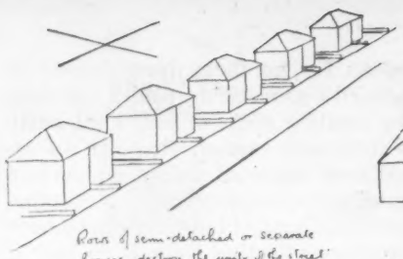
Citizen participation in the planning process seems to me to be the great political challenge of our time. On its solution may well depend the survival of the entire democratic experiment. J. R. Richards observed very acutely in the *Architectural Review* that ". . . to distribute the responsibilities of a highly organized community life equitably is just as much the function of social planning as to distribute its benefits." And I suspect that the progressive planners have been taking too much responsibility on their own shoulders rather than otherwise. Instead of trying to decide every point of policy or technique themselves on a "scientific" basis (which usually comes down to guessing what people want anyway —for there *is* no pure intellectual solution to such problems as decentralization), they might better develop some machinery which would allow people to decide for themselves.

The role of the "expert" in the structure of a rapidly shifting democratic society is one of the most delicate and difficult problems of our time. And it is nowhere more confused or further from solution than in our own field—which, while technically complex, is at the same time very literally "close to home" for the individual citizen.

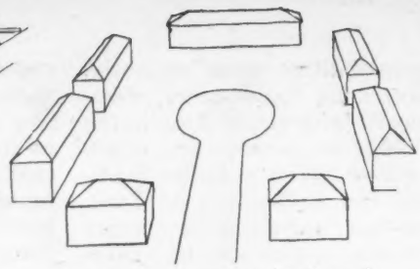
As the *New Statesman* put it, what we need primarily is not paper plans,



Drawings from "Living in Cities"



Rows of semi-detached or separate houses destroy the unity of the street. They have not the quality of the Town or the country.



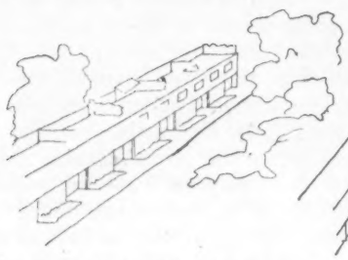
This type of cul-de-sac is not so bad as the endless rows of houses, but it is a compromise. It has neither the dignity of the square, nor the informal harmony of the village green.

however logical, but some scheme, devised in our own terms, which would "bring into play the new motives and the new driving force . . . which enabled the Russians to perform the economic miracles of the past two decades." And Herbert Read in his Foreword to *Creative Demobilization* went a step further in defining the terms likely to produce a dynamic movement, particularly in countries such as ours: "Cooperation is the only 'technique' of intellectual and moral progress, and it is a technique which implies collaboration and not direction, freedom of initiative, not the impress of authority."

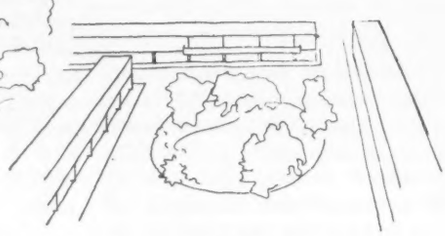
not to some coldly rational planner with ideas about perfect cities or the "social service state."

Questionnaires and polls are no solution, although the English have uncovered some interesting facts about popular housing desires by this means. What is needed is not just statistical information on average tastes and prejudices, but a mechanism for sharing the knowledge and responsibility and thus, eventually, improving the average capacity for decision.

One asks (with parallel questions in mind for America): is the great co-



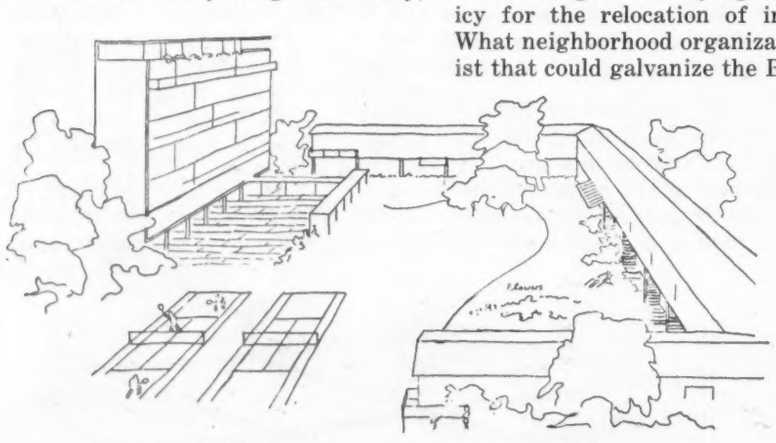
The loveliest towns and villages are composed of terrace houses. The simple form gives repose, without loss of individuality.



The square is in the best tradition of English town-planning. Here is both spaciousness and seclusion.

If we assume that individual initiative and responsibility were attributes solely of the uncontrolled private-profit system, and therefore obsolescent, we are lost from the start. Most of our citizens will prefer to hang on to that system till the bitter end at such a price. And power-minded intellectuals impressed by Managerial theories should not fool themselves. If democratic leadership fails and people grow so weary and cynical that they finally give up the desire for individual choice, they will turn to a Huey Long or a Mosley,

operative movement in Britain so dead that it offers no handle for democratic planning? Are the citizens of the East End so degraded that they cannot find leaders of their own to help decide whether a quarter or a half of them should move away, where they should go, and if the rest will thrive better in cottages or in 10-story apartments? What happened to that lively tenants' organization of pre-war days? Why can't the unions and the new shop-steward movement play an important part in formulating and carrying out a policy for the relocation of industry? What neighborhood organizations exist that could galvanize the Boroughs



Drawings from "Living in Cities"

Open squares and the peaceful lawns of the college quadrangle. Tall blocks of flats and horizontal terraces integrated into a balanced whole.

and Districts to positive action within the larger scheme of things?

Paternalism and progressive reform have always been curiously close in Britain: is there no move even now to distinguish between them? We borrowed the general outline of our public housing legislation from England and, basically sound though it is, it needs amendment to encourage cooperatives and other forms of direct initiative and responsibility.

Many issues are too novel or complex, of course, for simple immediate majority decision. Where new forms and techniques and major dislocations are involved, difficult to decide all at once in the abstract, frank experiment and persuasion by demonstration must play an important part. Where complete new towns are to be built (as will happen, for instance, in our own Columbia Basin), perhaps the *first* step should not be land purchase or detailed plans, but finding some few individuals of adventurous spirit who really want to take part in such an enterprise. If a group of people themselves make such demands of government, so much the better.

Once purely designers, the professional planners have gradually accepted the notion that they must also be managers. Now it is time for them to become organizers as well . . . and politicians. As a matter of fact, town planners, in the days when they thrived on the patronage of rich and powerful autocrats, were well acquainted with the art of politics. Perhaps their present relative ineffectiveness simply indicates that they have never relearned the political arts in a form suitable for democracy.

In some respects the people are already ahead of the planners. A half-articulate new faith in an "economy of abundance" is spreading in both England and America—vastly stimulated by the otherwise inexplicable phenomenon of general prosperity in the midst of a desperate and costly war. But let no man confuse this revolutionary vision with any popular desire to be fitted into a scientifically perfect or even ideally beautiful environment as determined solely by the experts. The very word "abundance" implies maximum personal choice, even including whim and waste.

Dean Hudnut of the Harvard School of Design suggests, with his usual shocking common sense, that city planners ought to be elected by the people they serve—"to attain that lack of continuity which, however costly in practical terms, is the certain evidence of vitality in the democratic process."

(The April issue will contain a complete bibliography of British publications, prepared by Catherine Bauer.)

Photos by Julius Shulman

Southern California House and Studio Workshop

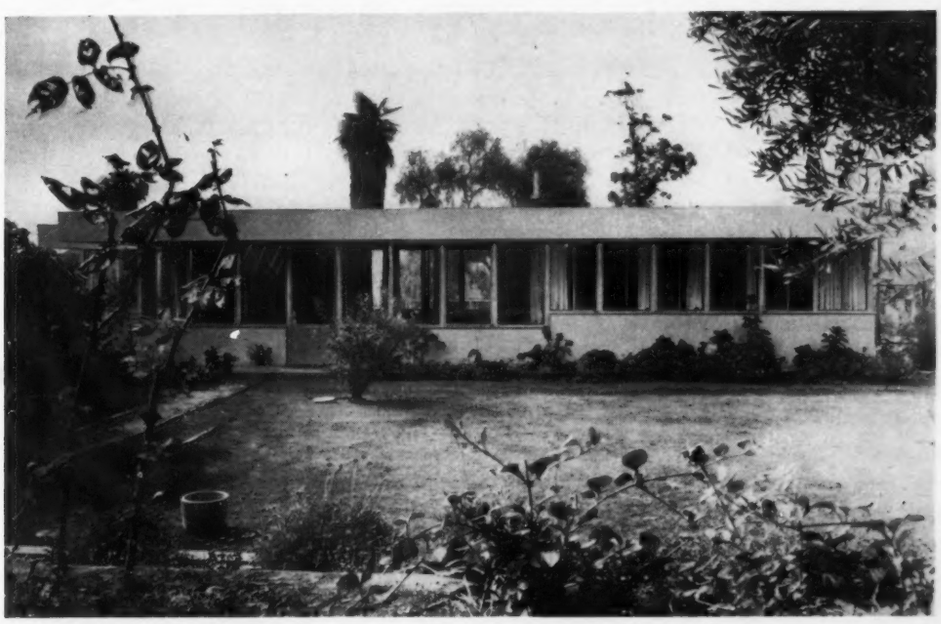
Raphael S. Soriano, Designer

Client: The noted ceramist, Prof. Glen Lukens of U.S.C.

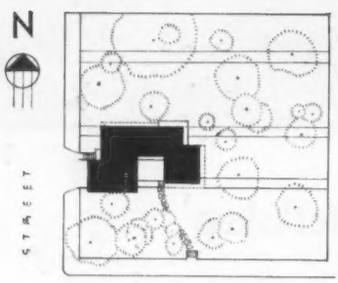
Design Problem: A combined home and workshop

Site: 30-year-old garden; magnificent trees; 4 levels (see plot plan)

Solution: A newsworthy structure, informally planned for specialized use, organized with rare respect for existing landscaping



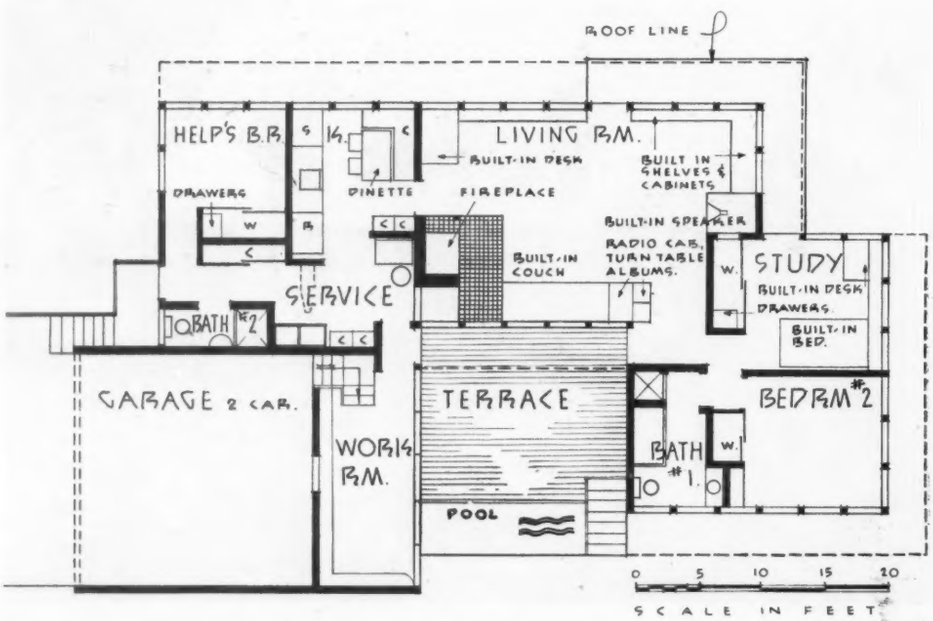
Raphael S. Soriano



PLOT PLAN

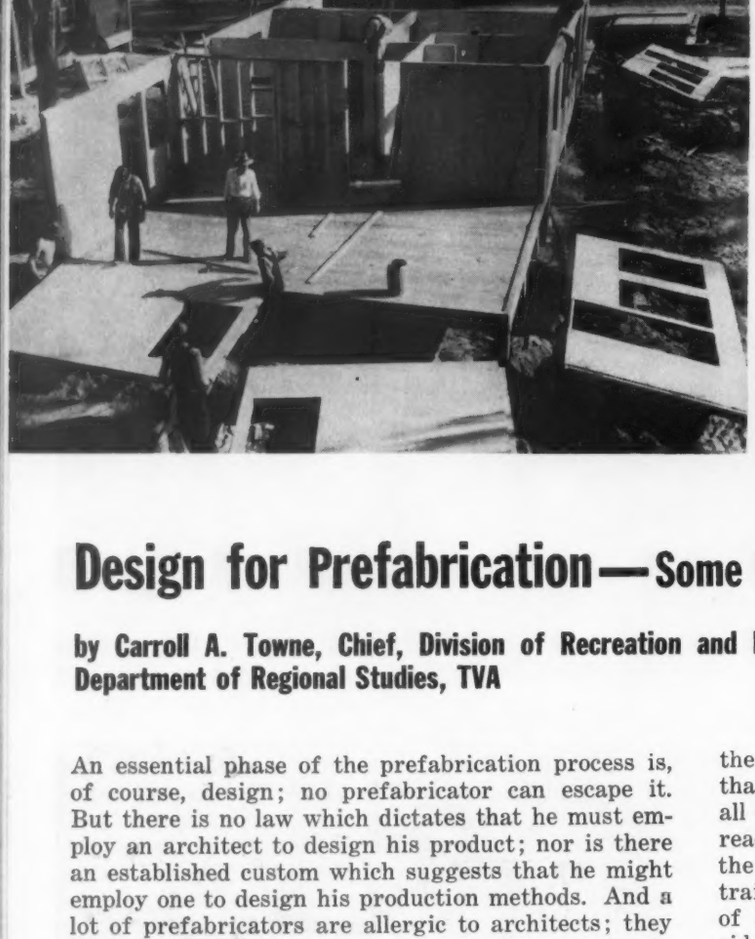
Informality is the keynote of the plan. Witness the fact that while the small house has five doors to the outside, it has no "Front Door"—on center or otherwise. From the raised terrace facing the lower garden, entrances open into both the living and workshop-service areas; openings to the upper-level garden occur in both the bedroom-study and in the window wall of the living room proper. Yet another outside door, located on the west wall, leads into the service hall.

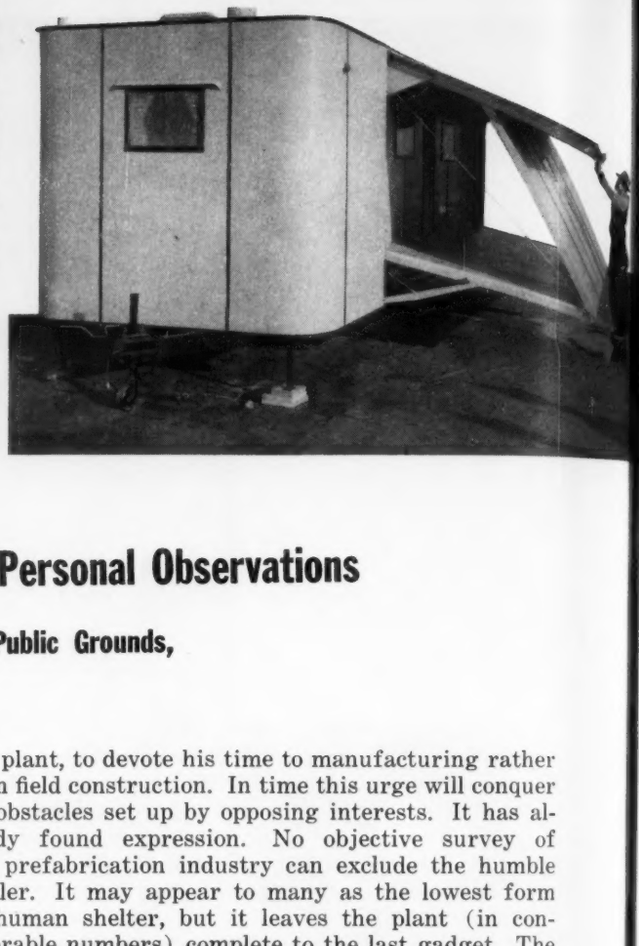
Special attention was given to the placement of Professor Lukens' workshop. Materials and heavy sacks of clay, delivered at the garage, are readily brought in through an access door in the wall. Visitors approaching the house from the lower garden gain a display of the artist's work through the wall-height windows bordering the terrace, and they may enter the workshop without passing through the house itself. The stuccoed walls are framed with 4″ by 4″ redwood posts; windows are of the casement type.



FLOOR PLAN

The interior of the house is Soriano at his best—bold window walls and excellently proportioned clean wall planes of varying surface textures organized into a harmonious unit. Extensive built-in units—shelving, cabinets, radio and record changer—keep miscellaneous possessions under control and are schemed as an integral part of the design, not provided as an afterthought. The writing desk and fireside couch are both built in, the latter terminated by a radio-recorder-storage unit which also serves to separate the living area from the door leading out to the raised terrace. Above the deep fireplace, open on two sides, plain plaster walls are dramatic contrast to the rich wood surfaces of the rest of the room—magnolia plywood, 4 ft. by 8 ft. by ¼ in.





Design for Prefabrication—Some Personal Observations

by Carroll A. Towne, Chief, Division of Recreation and Public Grounds, Department of Regional Studies, TVA

An essential phase of the prefabrication process is, of course, design; no prefabricator can escape it. But there is no law which dictates that he must employ an architect to design his product; nor is there an established custom which suggests that he might employ one to design his production methods. And a lot of prefabricators are allergic to architects; they suspect them of ulterior motives, such as trying to make the customer take what the architect thinks he needs, instead of giving him what he wants.

There is, nevertheless, a growing mass of evidence that architects are better than anyone else at predicting public taste in architecture—understandable in view of the fact that it is their business to influence it. This gives them plenty of reason to design for prefabrication, and for prefabricators to be sensitive to their efforts. The question that faces the architects is how to go about it. Many architects are fearful of prefabrication because quantity production demands standardization and tends to limit or eliminate freedom of design.

The techniques of prefabrication are by no means stabilized. It is true that a large and growing group of prefabricators have established a common ground. This group favors the factory fabrication, to varying degrees of completion, of panels which are shipped to and erected on the building site. Nearly half the work (which includes installation of plumbing, wiring and other machinery for living) is done in the field. Most of the systems employ on the one hand modular units of measure for dimensioning the panels and on the other, ingenious schemes for rapidly joining them in the field, and have been aimed at speeding up both factory fabrication and field erection of panels.

Aside from the fact that modular units of measure materially larger than those found on an architect's scale constitute a major limitation on freedom of design, the assumption that prefabrication is going to stop at this halfway mark is open to serious question in the light of both current events and legitimate speculation.

A view of the future, which need be neither too long nor too broad, must include consideration of the prefabricator's urge to pull more and more work into the plant, to devote his time to manufacturing rather than field construction. In time this urge will conquer all obstacles set up by opposing interests. It has already found expression. No objective survey of the prefabrication industry can exclude the humble trailer. It may appear to many as the lowest form of human shelter, but it leaves the plant (in considerable numbers) complete to the last gadget. The trailer manufacturer until recently had no on-site problems: he sold his product as consumer goods FOB plant or sales room. When the government began talking ready-to-move-in-on-site jobs, he hired a few strong backs in the field to set his product on prefabricated wooden horses. The trailer industry has bred a big brother: the expansible trailer. This affair is designed for transportation over the highway, and can be unfolded into a full-sized house at destination.

A link between the trailer and the panel house can be found in the demountable house designed by TVA. Nine hundred and fifty houses of this type have been built, and of these, 450 left a plant or factory as completed houses separated into sections as few as possible and as large as highway regulations would permit. (The balance were built on-site.) Many more will have been manufactured and placed before this article appears in print.

A hundred houses were delivered, fully equipped *and* furnished, at a TVA project, 48 hours and 600 miles from the plant in which they were built. On this project, *less than five per cent* of the cost of each house, including foundations and service connections, was spent on site.

The point about these TVA houses is that they could have been shipped out of the plant in panels. Instead, the panels which make them up were preassembled in the plant in order to reduce on-site effort. Transporting these panels in preassembled sections cost more than would transporting them unassembled, but in every case the economies gained by plant assembly, coupled with plant installation of plumbing, wiring, fixtures, trim, and accessories equaled or more than offset the excess transportation costs.

This would not always be the case. There are situations that demand field erection of panels, or indeed of pre-cut pieces. The essential fact is that houses can be designed to permit a degree of prefabrication best suited to each particular circumstance, and the range of choice lies between complete on-site assembly of pre-cut pieces and complete factory fabrication.

The architect may choose that his house shall unfold like a flower or an accordian, that it shall slice into pieces like a loaf of bread, or that it shall fly through the air suspended from a helicopter: so long as it can be unfolded, buttoned up or otherwise assembled at the site for a tenth its total cost, he is safe in the knowledge that he can make the principle of prefabrication yield its ultimate advantages. Any system which falls short of this goal is likely to fall behind in the race to offer the most satisfaction to the consumer for his dollar. The designer and the sponsor may find themselves fighting to protect specialized and possibly obsolete plant investments. That is not a happy spot for a professional interested in freedom to interpret consumer needs and wants. Nor is it necessary to get caught in such a spot. The designer is in a position to work with almost any prefabricator in terms of the latter's current techniques, but in a manner that will adjust them to permit preassembly as well as prefabrication. There is hardly a prefabricator now in business who could not make these adjustments.

But freedom from design limitations imposed by field assembly of panels solves only part of the problem. The modular unit creates a whole host of limitations in its own rights. Many scholarly studies on the subject of modular design have been made and published. Most of them have been justified on the grounds that standardization is essential to effective mass production. This is an undisputed principle, although there are obvious limits which prevent its complete application to practical cases. And practical cases, no matter how many words are written on the theory, are the points at which the architect, the prefabricator, and the consumer meet.

It is the architect's job to get the other two together. For many years he has been measuring the consumer's needs with a scale on which the modular unit is one sixteenth of an inch. When his prefabricating friend plaintively whispers the intriguing word "standardization" in his ear it certainly behooves him to listen carefully, but hardly to toss his six-foot rule overboard for a four-foot stick with no marks on it.

It has been said frequently of late that an amazing variety of designs can be worked out with this stick, and that the stick can be exchanged, with little loss, for a cube. The variety of designs that have been produced with these devices is indeed amazing, and the results demonstrate remarkable ingenuity, but they do not, and never can, interpret consumer needs with the degree of sensitivity inherent in a six-foot rule.

To the creative architect a module is a menace. The real problem he must solve is to select the least menacing device for standardization that he can find.

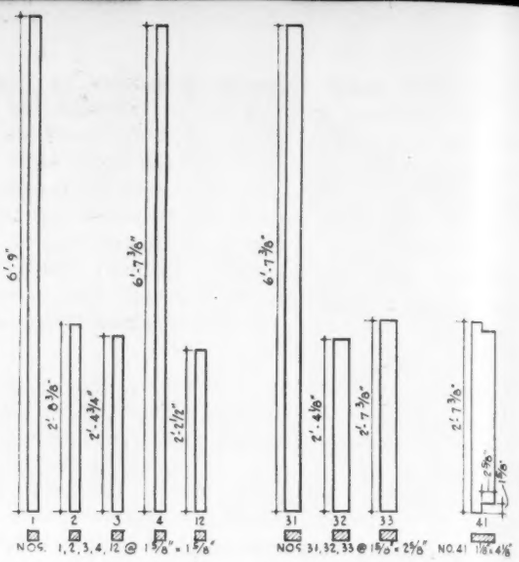
Because the architect's freedom, and indeed his ability to survive at all, is so deeply affected by the prefabricator's demand for standardization, he has every right and reason to inspect the conditions in the plant which create this demand. In doing so, he cannot afford to be superficial, nor to confuse fundamental conditions such as conservation of manpower and materials, with less fundamental ones like capital investment in obsolete machines and patterns. Neither need he take as gospel the technical jargon that impresses the layman with the omnipotence of mass production; frequently a plant is successful in spite of its production techniques. Somehow the architect must impress the prefabricator that research aimed at producing customer appeal is just as important as that aimed at lowering production costs. Customer appeal, except in terms of price, is not secured by standardization, and both the architect and the prefabricator should recognize that fact.

The average plant starts its operations with stock dimensioned lumber and sheet materials. These stock materials first go to the saws where they are cut to lengths and widths required by the design the plant produces. From the saws the materials move

to the production lines. It is here that the architect will have his troubles in distinguishing between legitimate and illegitimate claims for standardization. As a case in point, most plants use jig tables for assembling pre-cut pieces into panels. Jigs may be very simple or very complex; there may be a separate one for every panel or a single adjustable one for the whole lot; they may stand still, with a separate crew doing all of the work required on each one, or they may move, with several crews performing special tasks on each one as it moves by their stations.

These jigs share one attribute. Their primary function is to provide a pattern for arranging pre-cut pieces of material. To the architect, therefore, they are glorified shop drawings, and he should devoutly hope that they are subject to quick replacement by or adjustment to new patterns. The propensity on the part of prefabricators to regard fixed pattern jigs as permanent investments is, from the architect's point of view, the last defensible obstacle to freedom of design. It is this propensity that, in considerable measure, encourages the search for the universal module.

The Smaller the Unit . . .



the Greater the Variety . . .

Why should prefabricators value their jigs so highly? There are two reasons, one good and one bad. The bad reason is that the jigs cost a lot. This is avoidable, at least in regard to fixed patterns. Adjustable jigs are commonplace, and where they are too expensive, removable jig sheets on permanent tables should not be too difficult to devise.

The good reason is fundamental. One of the basic points made by proponents of mass production is that repetition of a given task by each individual on the production line promotes speed and efficiency. This is probably true, although if speed and efficiency are obtained on the production line by lowering it elsewhere in the plant, or by sinking capital into expensive gadgets that have a merry but short life, the net gains may be dubious.

In any event, the architect must be as persuasive as he can in suggesting a degree of freedom at the jig tables. One scheme might work as follows: If the architect produces a design which provides for maximum standardization of individual pieces, to be arranged in a relatively large variety of patterns, he will be able to claim a number of advantages to the whole plant operation that may offset possible losses in efficiency due to variety of patterns at the jig tables. To illustrate the point, the number of stockpiles at the jig tables might be cut in half. This would reduce time and chances for error in distributing materials to the stockpiles; it would conserve floor space; and jig table crews would spend less time in finding the right pieces. This is an elementary example, and might not apply in many plants, but it serves to indicate the idea.

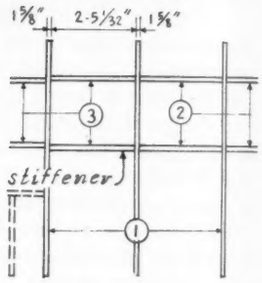
Examining this idea more carefully, can the architect do a more creative job with standardized pieces than with standardized panels or cubic units? He probably can, on the general theory that the smaller the unit, the greater the variety of designs it will produce. Thus the lowly brick, a modular unit, permits the designer more freedom than its larger counterpart, the concrete block.

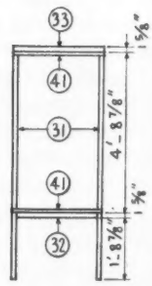
In the early stages of attempting to standardize the pieces that make up a structure, a lot of obvious adjustments which do not adversely affect design will show up, but as the work progresses, the struggle between standardization and sensitivity to design will increase in vigor, until at last the architect, his conscience battered but unbowed, will declare a truce and place his solution before the prefabricator. The latter, it may be presumed, will debate the doubtful points, arguing for minor adjustments that make big gains. The result should be a victory for design, as compared with the results obtained with standard panels.

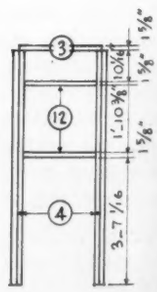
In the final analysis the professional objective is to design *for* prefabrication, *not* prefabricated design. Mass production of design may be justified for war housing or some other emergency, but it seems to have no more significance to prefabrication than it does to conventional construction.

The interests of both prefabrication and design will best be served if both join in the search for the point at which maximum standardization consistent with design objectives can be secured.

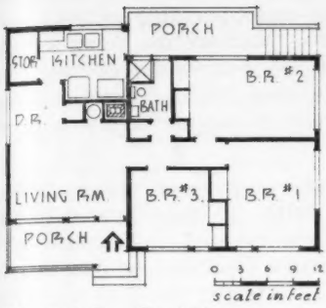
This is the exact point beyond which the architect must not go if he would survive as a creative force. It also marks the spot where the consumer will get the most house for the fewest dollars, and this, it may be presumed, is the final objective of everyone concerned.







TYPICAL FRAMING ASSEMBLIES
3/16" SCALE



FLOOR PLAN

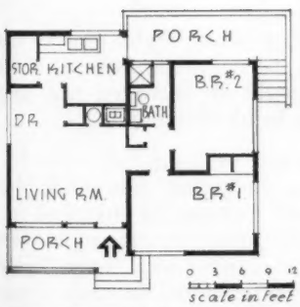
Demountable Houses . . Smith Creek Village, Apalachia Dam, TVA

Roland Wank, A. I. A.,

Head Architect

Apalachia Dam powerhouse, constructed by the Tennessee Valley Authority in 1943, is located about ten miles downstream from Apalachia Dam on the Hiwassee River in a sparsely settled and relatively isolated mountain region. Virtually no private housing was available within twenty-five miles of the powerhouse. The Authority considered it essential that, to insure continuous operation and protection of the plant, a small village be provided for operations and safety service personnel and their families stationed at Apalachia powerhouse.

Because of the rugged topography of the area, the Village is located about 1½ highway miles from the powerhouse on a ridge overlooking the Hiwassee River, Smith Creek, and the Cherokee National Forest. The Village consists of 20 single-family houses; a community building which includes school rooms, general store, post office, and village office (see February, 1944, PENCIL POINTS); utility systems, and streets and paths.



FLOOR PLAN

Of the 20 houses, 14 are two-bedroom houses and 6 are a three-bedroom type. All are of one-story frame construction, and so designed structurally as to permit subsequent removal and re-use elsewhere should operation of the Village after the war be unnecessary. The steeply sloping site required high foundations under the rear parts of the houses; these were sheated in wood, resulting in a semi-basement adapted for rough storage. Heaters were kept on the main floor level because location in such basements might not readily adapt itself to new sites to which houses might be moved.

Although on-site constructed of conventional materials and methods familiar to all builders, the houses at Smith Creek Village are made both demountable and weatherproof through the use of a few relatively simple expedients, which are described in the following paragraphs.

The houses are so framed above the cinder block pier foundations that they can be easily separated into a series of uniform-sized, portable sections—virtually "slices" of a house, each section being a rigid, three-dimensional unit 7½ feet wide, 22 feet long and approximately 9½ feet high. There are four sections to a two-bedroom house and five to a three-bedroom house.

Exterior walls composed of 2″ x 4″ studs 24″ on center and insulated with 2″ thick paper-backed batt type insulation are covered in general with 1″ x 10″ tongue and groove V-jointed vertical boards, applied conventionally. Exterior walls at the front and rear porches and the foundation enclosure are covered with 1″ x 8″ flush-jointed horizontal shiplap. At the wall joint where sections adjoin, the horizontal shiplap is finished with a mitre cut on the board ends.

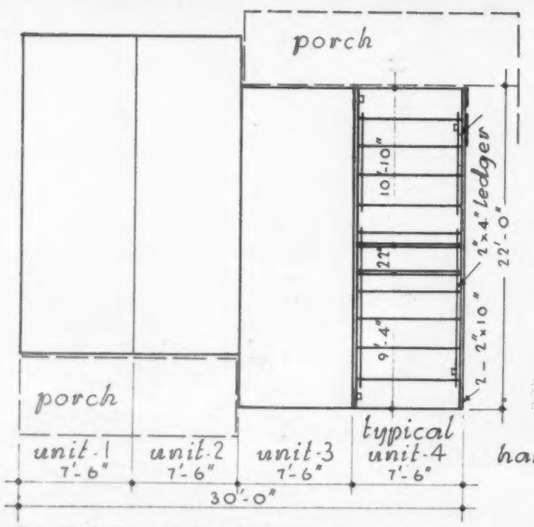
Interior wall and ceiling surfaces are covered with ⅜″ thick plaster board with taped joints except in bathroom where asbestos-cement board is used on walls and ceiling. Ceilings are thoroughly insulated with 4″ thick paper-backed batt type insulation.

Factory finished standard grade 13/16″ x 3¼″ face oak flooring is laid parallel to the long dimension of the sections over waterproof paper on a yellow pine sub-floor. A loose piece of finished flooring is inserted over the joint between sections when they are bolted together.

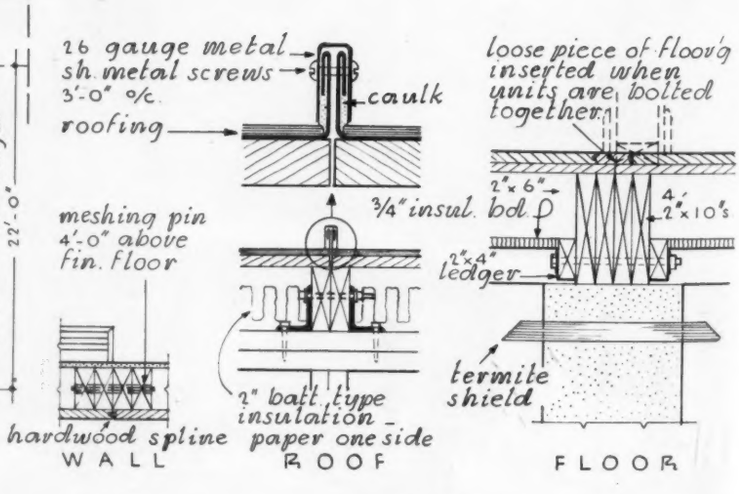
The slightly sloping roof surface is covered with a 3-ply built-up composition roof and the roof joint between sections is metal flashed and covered with a metal joint cap.

A chimney composed of precast, light-weight concrete blocks lined with terra cotta flue tiles was constructed because it could be salvaged and more easily dismantled than a brick chimney.

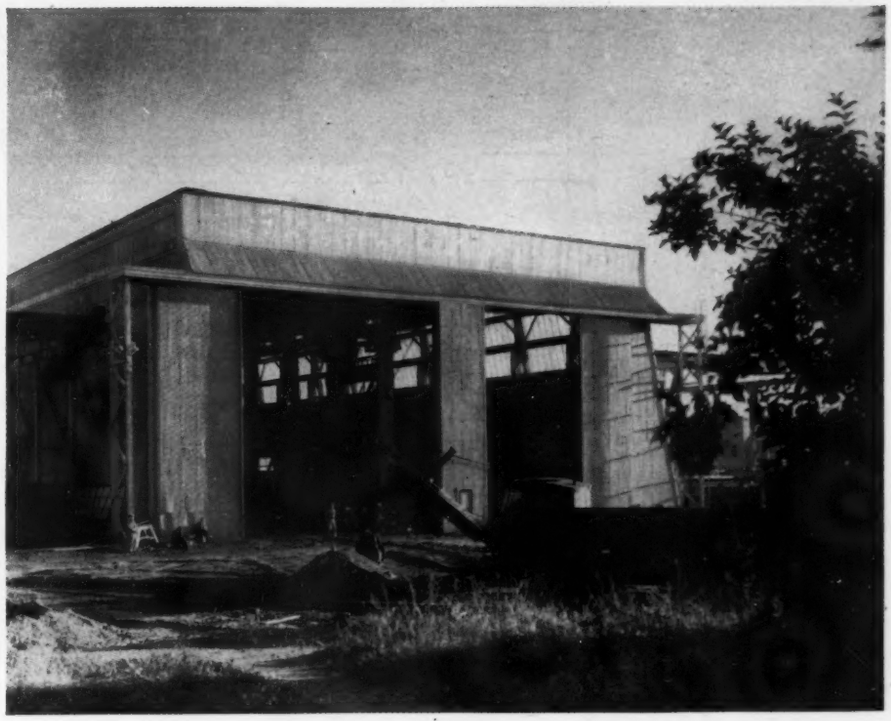
Utility connections between sections are held to a minimum. All plumbing, including concealed pipes for kitchen and bathroom fixtures, is installed in a compact arrangement with joint connections between sections. Concrete septic tanks with open-jointed drain tile disposal lines are installed to serve groups of two and three houses. All electrical work including wiring, fixtures, and some appliances, is installed as integral to each section. Circuits of adjoining sections are connected merely by wiring the end of the circuit of one section to a junction box for interconnection of house sections.



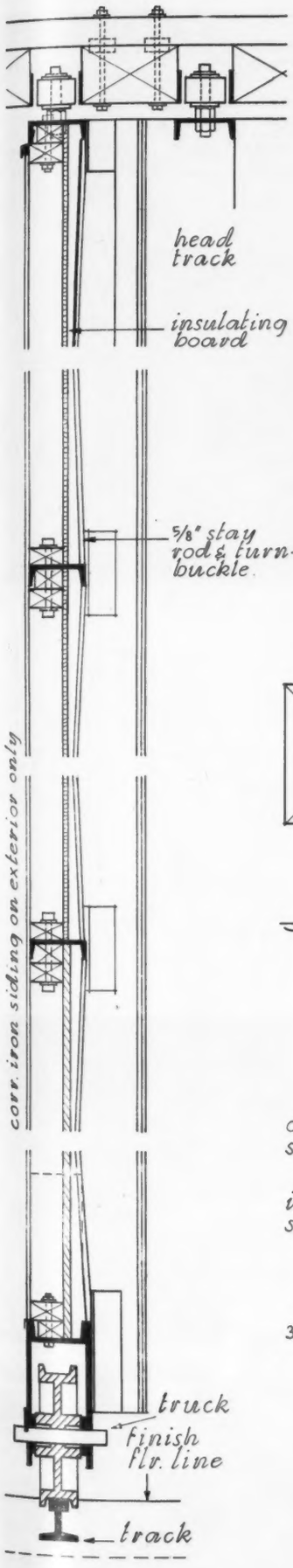
FLOOR FRAMING PLAN



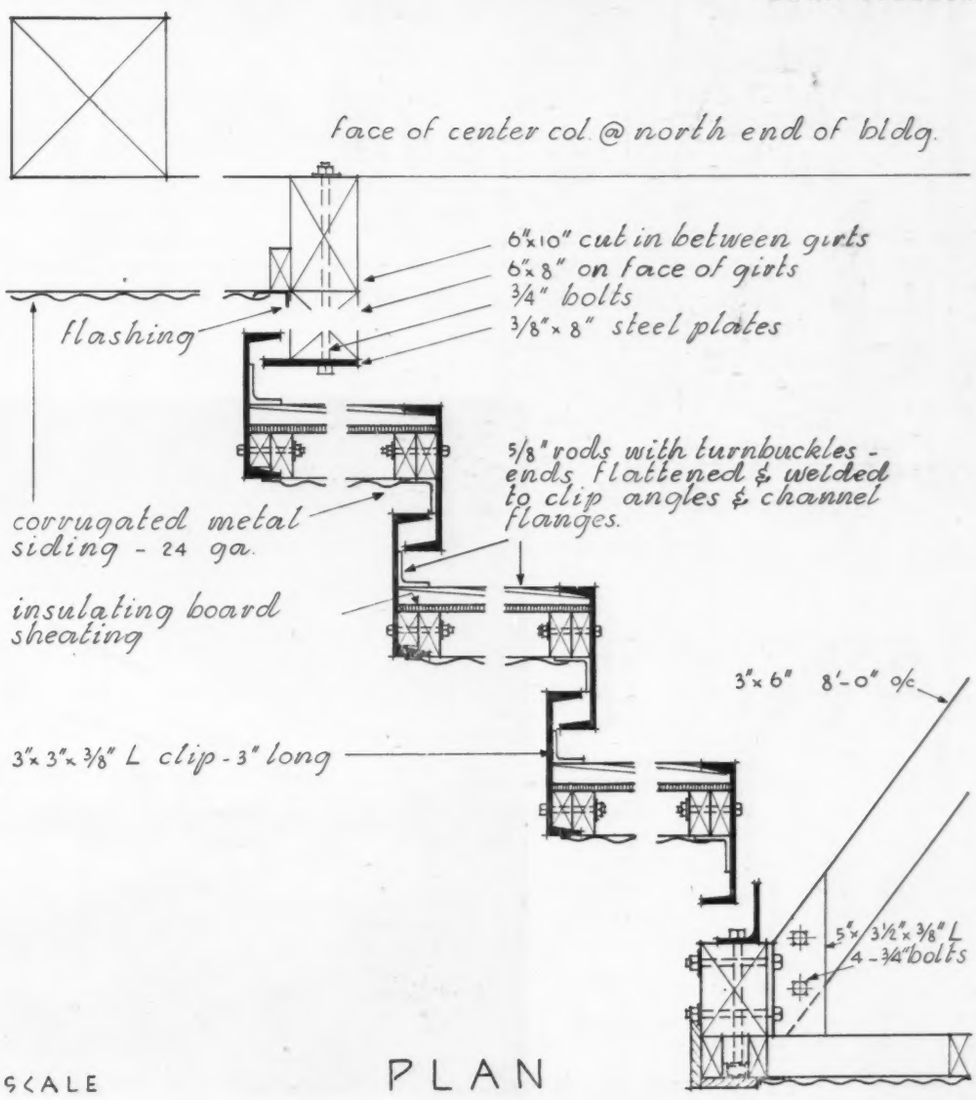
TYPICAL FRAMING JOINTS



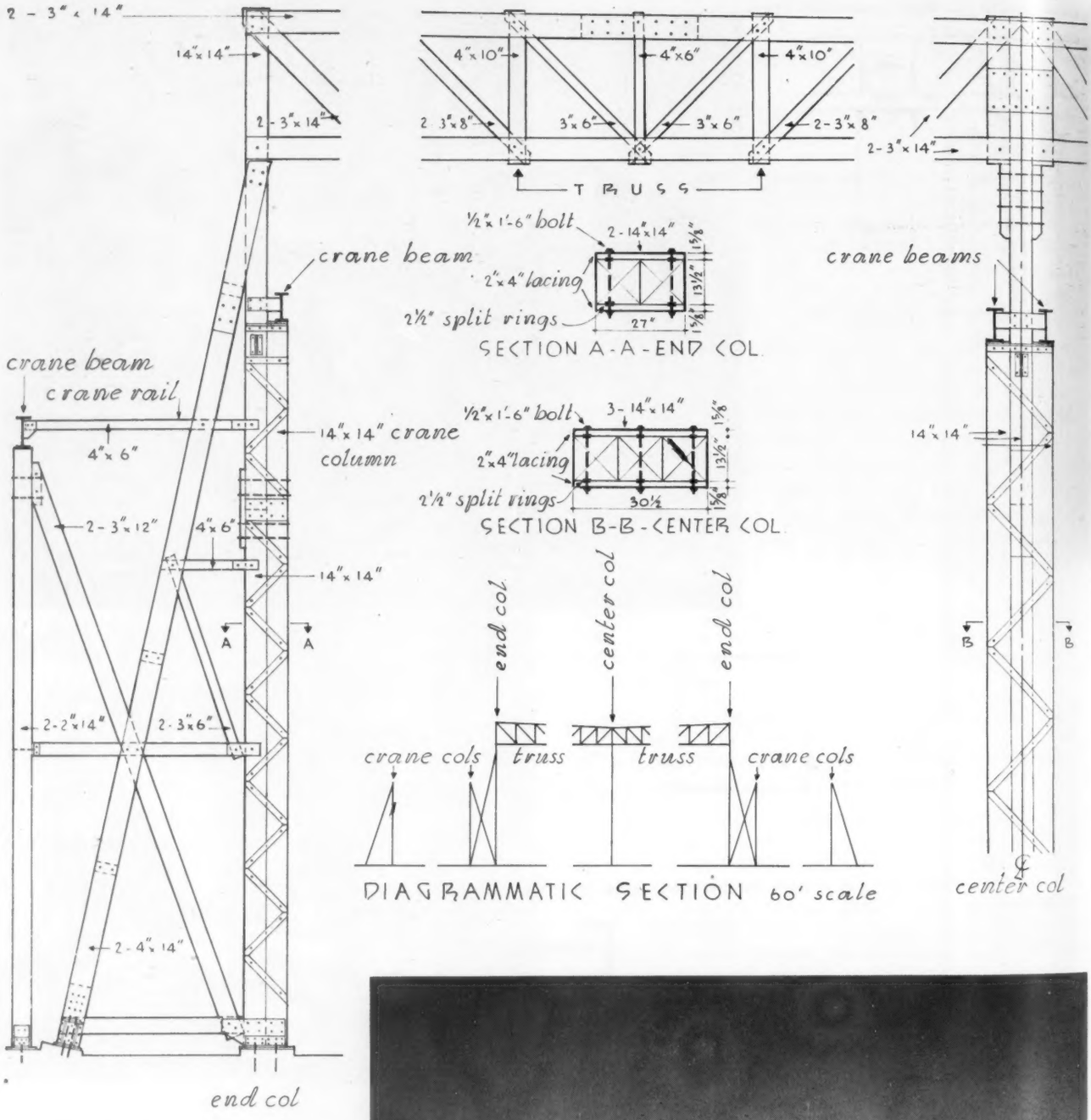
EZRA STOLLER



SECTION 3/4" SCALE


face of center col. @ north end of bldg.
6"x10" cut in between girts
6"x8" on face of girts
3/4" bolts
3/8"x8" steel plates
flashing
5/8" rods with turnbuckles - ends flattened & welded to clip angles & channel flanges.
corrugated metal siding - 24 ga.
insulating board sheating
3"x6" 8'-0" o/c
3"x3"x3/8" L clip - 3" long
5"x3½"x3/8" L 4-3/4" bolts

PLAN

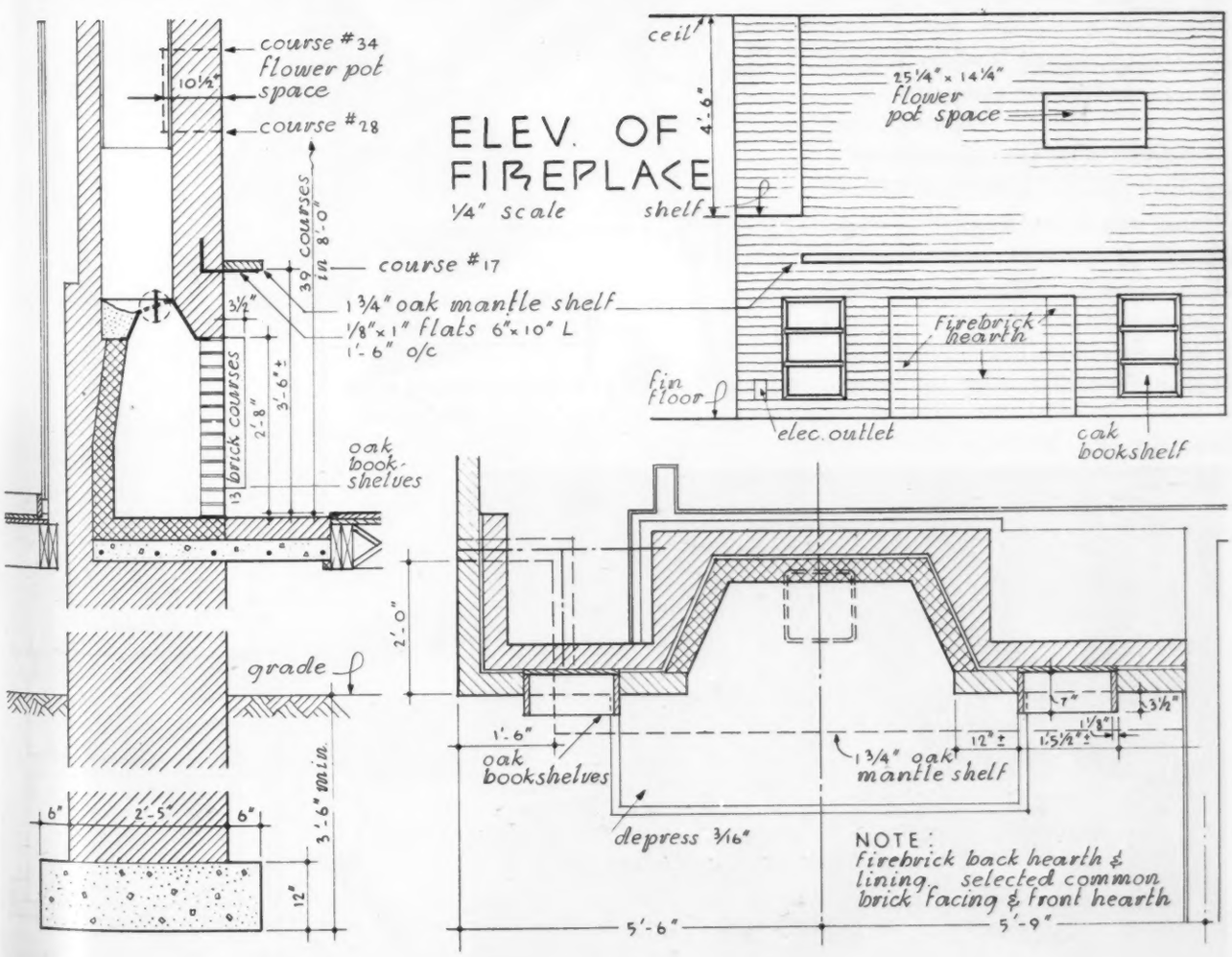


TRANSVERSE SECTION

1/8" SCALE

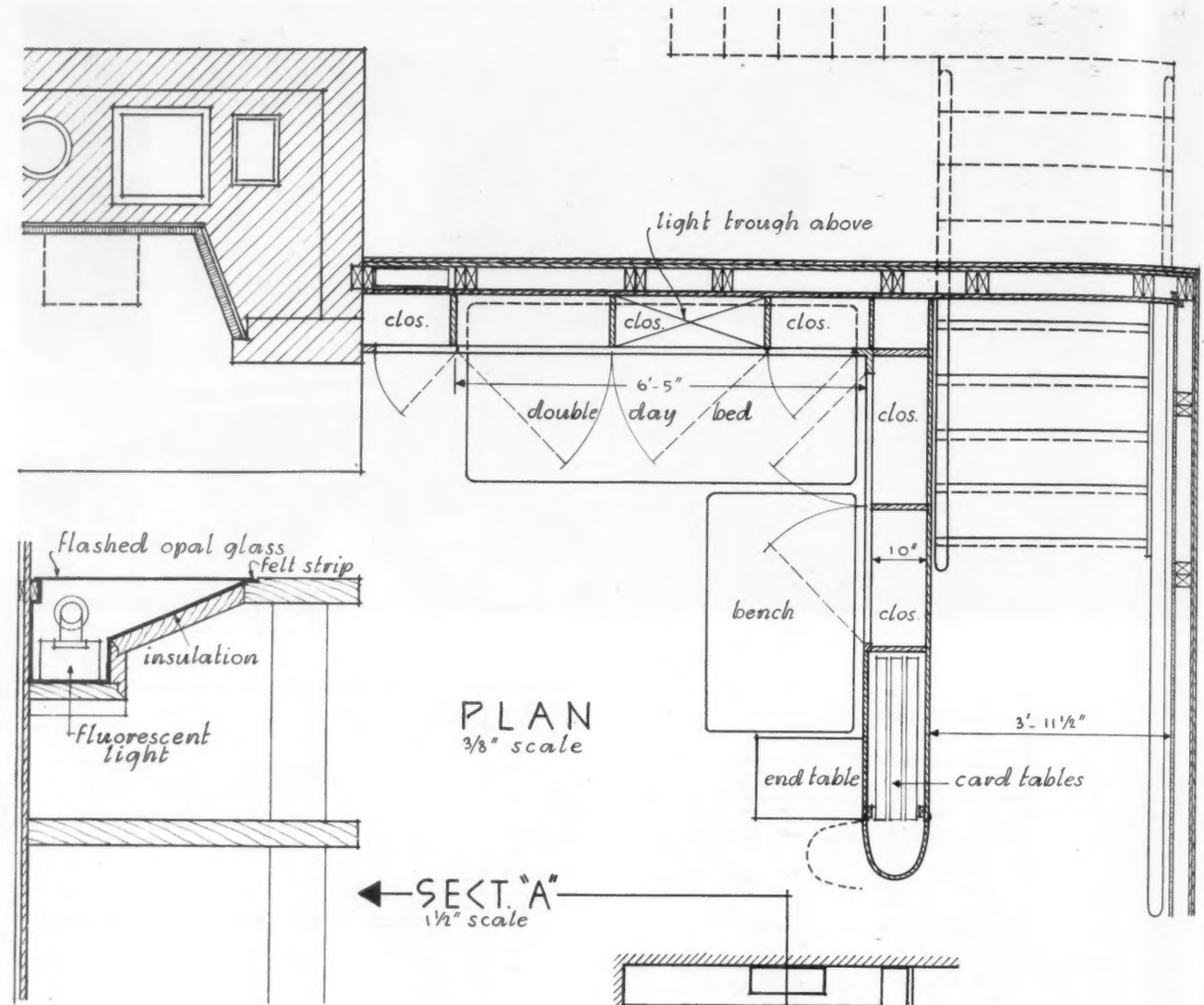
EZRA STOLLER

RICHARD GARRISON

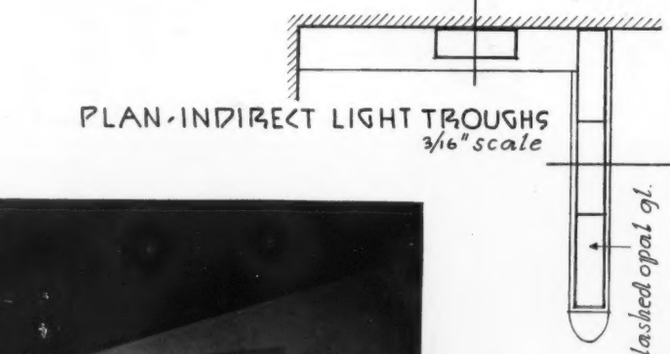


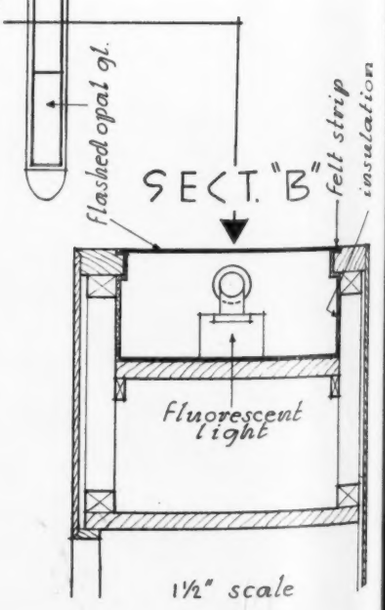
SECTION THRU FIREPLACE
3/8" scale

PLAN OF FIREPLACE
3/8" scale



SECT. "A"
1½" scale





RICHARD GARRISON

"TOPS" LIKE THE ACE OF SPADES!

Reproduced from a *Typhonite* Eldorado pencil drawing

In this critical hour, only top performance will do. So the opaque precision of the *Typhonite* Eldorado line plays a vital role on the production front. *It produces flawless, opaque lines from which blueprints of clean-cut perfection are made.*

The Eldorado line is so trustworthy because the Eldorado pencil has what no other drawing pencil can boast—Typhonite lead. Typhonite is created from natural graphite by an exclusive Dixon process. The result? A magnificent drawing pencil in every one of its 17 degrees. Try *Typhonite* Eldorado pencils.

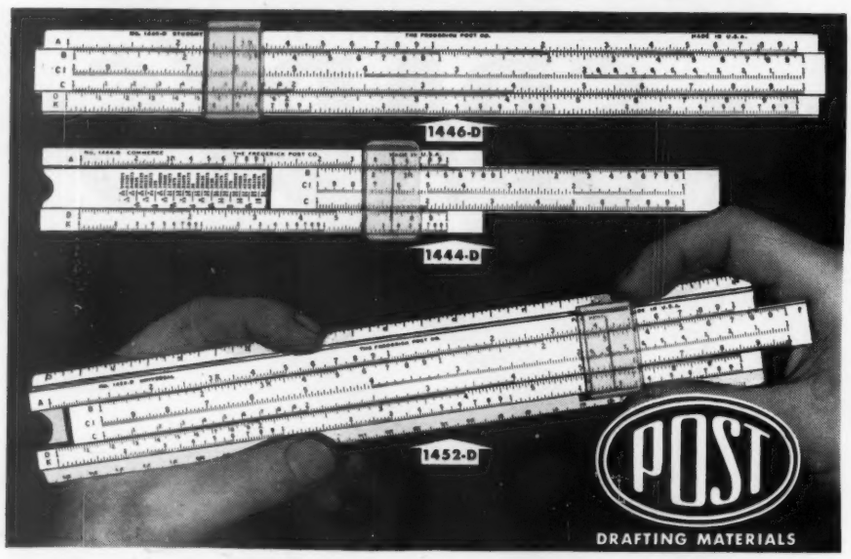
A BOOKLET FOR THE ENGINEERING MIND. For an illuminating description of the Typhonite Process, request this booklet on your business or professional stationery.

TYPHONITE

ELDORADO

Pencil Sales Department 167-J3 Publication
JOSEPH DIXON CRUCIBLE CO.
Jersey City 3, N. J.

New Slide Rules
IN PRODUCTION



3 Types • 3 Prices • Immediate Delivery

SIMPLE INSTRUCTION MANUALS INCLUDED

Made for the emergency—they'll do the job—and you can get 'em right now. Post Slide Rules come in leatherette cases and are accompanied by comprehensible instruction manuals. Read the descriptions below and reach for the phone for fast-action delivery.

1452-D—Ten inch Celluloid Face bevel edge slide rule. Inches and metric rules on bevel edges. Scales A, B, C1, C, D and K on slide front. Scales S, L and T on reverse side.
Attractive leatherette case.....List Price $3.50

1444-D—Five inch Celluloid Face POCKET style slide rule. Scales A, B, C1, C, D and K on slide front. Scales S, L and T on reverse.
Leatherette Pocket case.....List Price $2.25

1446-D—Ten Inch Printed Surface slide rule. Inches and metric rules on vertical sides. Scales A, B, C1, C, D and K on slide front. Scales S, L and T on reverse side.
Leatherette case.....List Price $1.50

POST
HOUSTON
The Frederick Post Company
1215 CAPITOL AVE. CAPITOL 1233

Reviews

(Continued from page 30)

Task 4

This is the fourth issue of what started out as a student effort in an Eastern architectural school. An impassioned young journal, meritorious in the truest sense of the word, its later issues have appeared at irregular intervals principally because those who edit it—many of them now practicing or employed at full-time jobs—have only spare hours in which to prepare the magazine, and their consciences won't permit shoddy work.

Perhaps consciences bother them too much. The magazine carries no advertising, because the editors believe advertisers would adversely influence their policies. It also lacks humor—not that we'd like it to be ribald, but *Task* makes architectural practice pretty grim business instead of the enjoyable experience it can be. The table of contents of this fourth issue leads one to expect a series of tracts, and in the main the pages live up to expectations: "The Architectural Front"; Catherine Bauer's "Outline of War Housing"; "The Lesson of Willow Run"; "Negro Housing in Detroit"; articles on Labor's Responsibilities, Wartime Legislation, Planning for Child Care, Puerto Rico (subtitled "U. S. Stepchild"), Stuyvesant Town, and the Metropolitan Life Insurance Company's Investment Policies—that's sort of heavy going to pack into one issue. There's what looks like a solid article on concrete construction, but one is quite weary by the time one reaches it.

This is rather a long complaint. Actually, *Task 4* is praiseworthy. It is good stuff, something that should be done, and thank God experience has not taught its editors that some things can't be done. But we have a sneaking suspicion that, earnest as life may be, a little less dullness would gain them a lot more friends. *Task*, could you possibly trade in your bludgeon as down payment on a rapier?

FRANK LOPEZ

Agenda

Another publication of the California Housing and Planning Association.

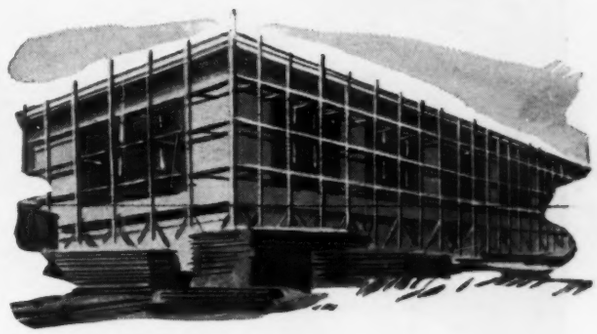
Plans for development of San Francisco's shoreline, the Los Angeles Freeway Plan, San Diego's need for an adequate water supply from the Colorado River, the potential postwar employment crisis, a power project for California's Central Valley, and a recreation plan for Marin County are all discussed here. This is an exceedingly meaty pamphlet.

MARGARET G. KING

(Continued on page 86)

Is a post-war construction "boom" coming?

1 Business advisory sources in Washington report that post-war planners are figuring on a volume in construction materials after the war roughly the same as in the boom in the late 1920s. That would be more than a third higher than in the five years immediately preceding the outbreak of this war.



2 They estimate that the construction business and the related furniture and glass industries will provide employment for about 25% more people than before the war.

3 Many preliminary plans for post-war buildings include flat roofs and greater utilization of roof areas. Flat roofs call for coal tar pitch and felt roofing materials. The wartime spurt in inventiveness has brought many marvelous new things, but nothing has been invented that is better for flat roofs than coal tar materials.—Koppers Company, Pittsburgh, Pa.

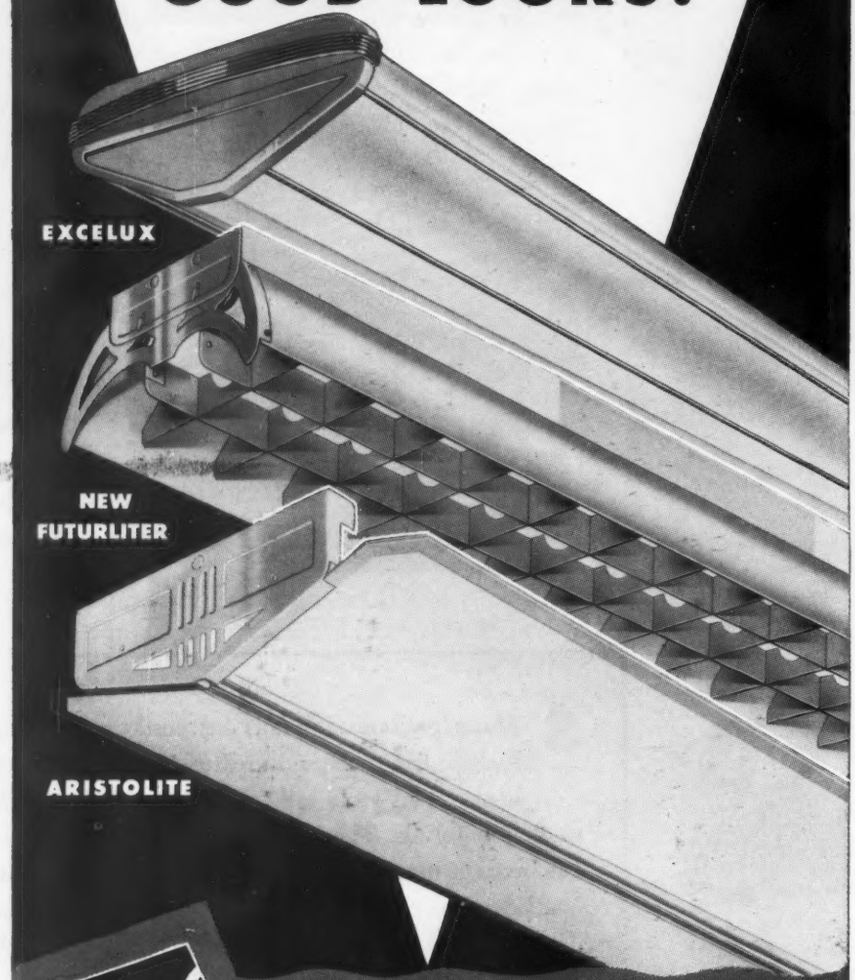
KOPPERS

THE INDUSTRY THAT SERVES ALL INDUSTRY

coal tar roofing

coal tar waterproofing

Yes, you Can combine
GOOD LIGHTING
with
GOOD LOOKS!



Guth FLUORESCENT
for Dependable Illumination in
Attractive Fixtures!

HERE are three of the new GUTH Commercial Fluorescent Fixtures. A glance tells you they're smartly styled—modern as tomorrow!

And they're efficient, besides. With more than 40 years of lighting leadership, GUTH has the engineering experience to build real quality into GUTH Lighting.

Write today for the new Guth Catalog No. 42.

Leaders in Lighting Since 1902 Guth

THE EDWIN F. GUTH CO. • 2615 Washington Ave. • St. Louis, Mo.

Reviews

Manufacturers' Literature

(Continued from page 84)

Publications mentioned here are all 8½" x 11" unless otherwise specified and will be sent, free of charge, upon request. When writing for any of the literature noted here, please mention PENCIL POINTS.

The material reviewed in Manufacturers' Literature *is classified. As a further help to readers who may be looking for specific information, every item is listed for two consecutive months after a review has been published.*

Air Conditioning

A new, condensed catalog, *AC-161*, on air conditioning, refrigeration, and space heating, is available from the Carrier Corporation, Syracuse 1, N. Y. The catalog contains 12 pages of information in concise handbook style, designed for quick reference in selecting air conditioning apparatus and related equipment. Typical installations illustrate the usual problems encountered. An unusual and valuable feature is a bibliography of special publications and magazine articles.

Concrete

Modern Developments in Reinforced Concrete (No. 9), 20 pages, Portland Cement Association, 33 West Grand Avenue, Chicago 10, Illinois. (Feb.)

Smooth Ceilings System, 4 pages, Metropolitan Life Building, Minneapolis 1, Minnesota. (Feb.)

Concrete Admixtures

A 4-page folder from the Sika Chemical Corp., 35-49 Gregory Ave., Passaic, N. J., lists purposes and properties of integral waterproofing, quick-setting compounds, gunite and grouting compounds, damp proofing, hardeners, and elastic caulking compounds. Information on these and Plastiment, a concrete densifier, is in tabular form, easy to use.

Electrical Equipment

Busways and Wireways is a 36-page bulletin on Saflex Plug-in Duct, Saflex Feeder Duct, SQUARE-Duct, and Screw Cover Duct for electrical distribution systems. It includes complete descriptions and application data, price information and understandable illustrations. Square D Company, 6060 Rivard St., Detroit 11, Mich.

Cannon Signal Systems, a new 16-page catalog, describes and illustrates nurses' call systems, doctors' paging systems, registers, time recorders, special switches, and lights, with particular emphasis on hospital design. Sys-

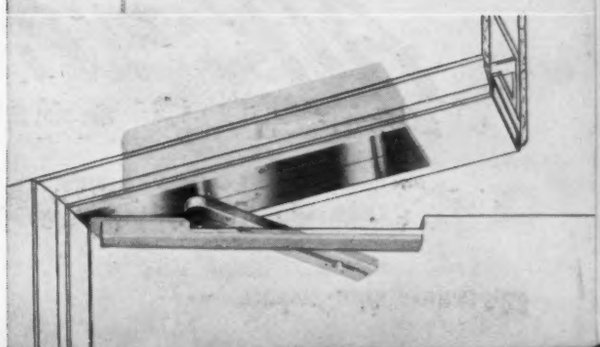
(Continued on page 88)

Doors of the future

...MUST CLOSE QUIETLY, EFFICIENTLY

Copyright 1944, Norton Lasier Co.

Design and mechanism of LCN Door Closers will set the standard for the future, as they have in the past.

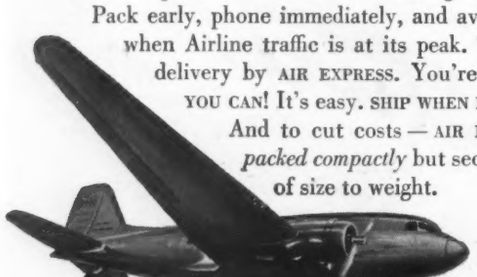


DOOR CLOSERS LCN

NORTON LASIER COMPANY, 466 W. SUPERIOR ST., CHICAGO

YOUR AIR EXPRESS shipments ought to be handled like hot potatoes, not "parked" on the floor awaiting a "routine" afternoon pick-up. Pack early, phone immediately, and avoid end-of-the-day congestion when Airline traffic is at its peak. That's the way to get fastest delivery by AIR EXPRESS. You're paying for speed... GET ALL YOU CAN! It's easy. SHIP WHEN READY!

And to cut costs — AIR EXPRESS shipments should be *packed compactly* but securely, to obtain the best ratio of size to weight.



A Money-Saving, High-Speed Tool For Every Business

As a result of increased efficiency developed to meet wartime demands, rates have recently been reduced. Shippers nationwide are now saving an average of more than 10% on Air Express charges. And Air Express schedules are based on "hours", not days and weeks — with 3-mile-a-minute service direct to hundreds of U. S. cities and scores of foreign countries.

WRITE TODAY for "Vision Unlimited" — an informative booklet that will stimulate the thinking of every executive. Dept. PR-3, Railway Express Agency, 230 Park Avenue, New York 17, N. Y.

AIR EXPRESS
AIR EXPRESS
Gets there FIRST

Phone RAILWAY EXPRESS AGENCY, AIR EXPRESS DIVISION
Representing the AIRLINES of the United States

Reviews

(Continued from page 86)

tems are adaptable to other types of institutions. Signal System Dept., Cannon Electric Development Co., 3209 Humboldt St., Los Angeles 31, Calif.

Fireproofing

Properties and Uses of Zinc Borate—3167 is a booklet on present practices in imparting fire resistance, with emphasis on combining with this property resistance to mildew and decay, and on properties and applications of zinc borate—3167, a catalytic agent used in fire-retarding textiles, electric cable sheathing, etc. Development Products Division, New Jersey Zinc Co., 160 Front St., New York 7, N. Y.

Glass

Richards Daylighting Products, 6 pages, J. Merril Richards, 119 West First Street, Boston, Mass. (Feb.)

Heating

Byers Wrought Iron for Radiant Heating Installation, 44 pages, A. M. Byers Company, 6th and Bingham Streets, Pittsburgh, Pa. (Feb.)

Modine Convectors for Postwar Buildings and *Modine Unit Heaters and Coilers*, (Bulletin No. SA-44), 15 pages, Modine Manufacturing Company, Racine, Wisconsin. (Feb.)

Booklet No. 550, 12 pages, (whole line); No. 600, 25 pages, *(Unistokers)*; No. 351, 12 pages, *(LoStokers)*; No. 350, 25 pages, (*LoStokers*). Detroit Stoker Co., General Motors Bldg., Detroit, Mich. or Canada Bldg., Ontario, Canada. (Feb.)

Lighting

How to Use Fluorescent Accessories, from General Electric, Lamp Division, 570 Lexington Ave., New York City, is a 16-page technical booklet on starters, lampholders, starter sockets. Not only are accessories listed and described; data on their purpose, functioning, and testing are included.

Sylvania Lighting News, 8 pages, Sylvania Electric Products, Inc., Salem, Mass. (Feb.)

Lumber

California Redwood, 8 pages, The California Redwood Association, San Francisco, Calif. (Feb.)

The Mengel Company Since 1877, 12 pages, The Mengel Company, Louisville, Kentucky. (Feb.)

Machinery and Controls

The DeWalt Portable Power Saw, 6 pages, DeWalt Products Corporation, Lancaster, Pa. (Feb.)

Unitrust—General Bulletin No. 1, 20 pages, Unitrust Corporation, Wayne Mich. (Feb.)

Views

(Continued from page 10)

way, but also telling them where and how they shall live. . . . It is time for the architectural profession to issue a declaration of independence and to restore itself to the dignity it should have as custodian of housing and land development. When this is done, there will be a forward surge in the development of the individual house—both single and row types—and, in some cases, of multiple dwelling units of far greater value to our American way of life than much of the product of government bureaus.'

'One could comment on this, and other sections of the report, for hours. I will bring up just one factual point as a direct answer to the above which I have just quoted—namely that the greatest housing progress has been in two very successful democracies—England and Sweden. But even if the report were not full of emotional misconceptions, even if it were substantially correct, *why* will there be a surge forward? What has the A.I.A. done to see that the laws, and the money, and the knowledge are forthcoming? By what knowledge or effort do the architects deserve to be custodians of housing and land development? Gentlemen, what has such phrasing got to do with a *real, constructive,* social postwar program?"

COME AGAIN, SIR ERNEST

Sir Ernest Simon, of the British Ministry of Works and Planning, traveled extensively in the United States in the winter of 1942-1943. Recently he addressed the London Architectural Association, summarizing his experiences. Architectural Design and Construction, *a British periodical, published in full in their January, 1944, issue the report from which we here present excerpts. Sir Ernest's pithy comments on what must have seemed a host of improbable situations should be illuminating to Americans who are awfully busy with their own affairs.*

One difficulty in talking about America is that it is not one place; there are forty-eight separate States, all of which have complete power in matters of town planning and building. There are no Federal building laws. It is therefore impossible to generalise about America, beyond saying that certain habits do tend to prevail.

Washington and Green Belt

The first city that we visited was Washington, the only big city in the United States planned from its origin, and in some ways very finely planned. Outside Washington is a place called Green Belt, which is the American equivalent of Welwyn Garden City, and was planned from the beginning by landscape architects. Landscape architects are very influential and important in America, and it seems to me that one interesting

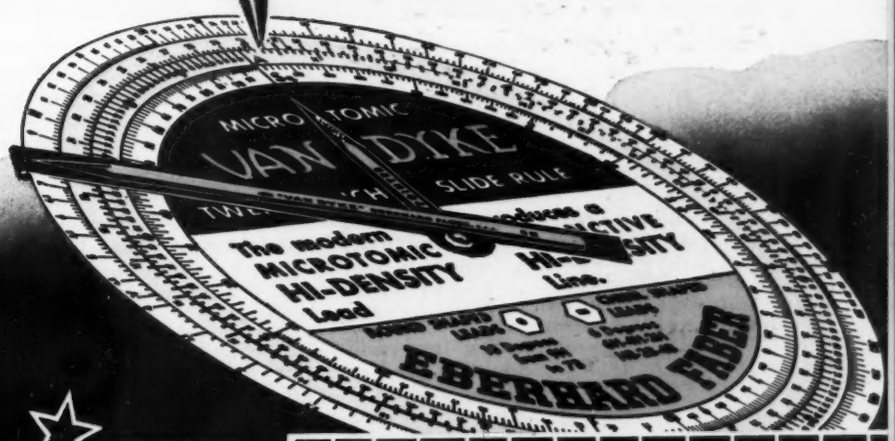
(Continued on page 92)

HI-DENSITY
MICROTOMIC
VAN DYKE
DRAWING PENCIL

sponsors a

20" SLIDE RULE

Immediately Available—at next to no cost. A circular duplication of a full 20 inch Mannheim slide rule...Precision graduated, and printed on sturdy cardboard. Continuous reading due to circular design...as timely a boon to designers as the blue-printability of tracings made with a Hi-Density Van Dyke pencil!



IMMEDIATE DELIVERY without priority
25c POSTPAID

EBERHARD FABER PENCIL COMPANY
37 Greenpoint Ave., Brooklyn 22, N.Y. Dept. PP-3

Here is my 25¢ . . . please mail Slide Rule at once, to

Name _____

Street & No. _____

City & State _____

Views

(Continued from page 91)

result has followed, and that is in connection with gardens. Green Belt, which is about ten miles from Washington, is beautifully planned; there are good trees and fine, undulating country, and the landscape architects took charge and planned the houses in conjunction with the ordinary architects, putting each house in its right relation to the trees and the lie of the land, planning the whole place from the point of view of external appearance with very great success. Lawns run up to the houses, and every shrub and tree is properly placed. They had no gardens, because the garden cannot be seen and tends to spoil the effect. Whether it is due to the landscape architects or not I do not know, but I went all over America looking for gardens round the smaller houses, and I could not find one until I got to the Far West. . . .

The American front garden is very attractive as a rule; it is almost always just a small lawn with a few flowers, and a verandah in front of the house where the occupants sit; they do not mind other people seeing them as much as we do. This means that their roads are very attractive indeed. On the other hand, the American back garden is very often a complete slum, with a garage and a garbage tin and washing hanging out, and one of the untidiest places which can be imagined. My general feeling is that the American front garden combined with the English back garden (fenced in and properly looked after) is the ideal.

Housing

I did not learn much about housing in America; they have not taken up low-cost housing nearly as much as we have. The Federal Government have begun subsidising housing in the last five or ten years. In New York they are building almost entirely great blocks of ten, twelve or thirteen storeys, and I did not find very much to learn. I think that their fittings in the houses are more standardised, and in some ways probably cheaper, than ours. There is a refrigerator and a washing machine in almost every house, and there is the prefabrication which we hear so much about, and which depends entirely, so far as I know, on the use of timber.

An Interesting Experiment

Much the most interesting thing that I saw in housing was what had been done in the case of some middle-class houses (in this country they would have cost about £800 each before the war) in Los Angeles . . . Los Angeles has a very dry climate, and the grass will grow superbly if well watered, but not otherwise. With true American ingenuity, therefore, and possibly, one might say, with true American extravagance, they have water-pipes laid through all the lawns with sprays attached; the gardener goes round and presses a button, and about fifty sprays begin to water the lawn.

Cincinnati

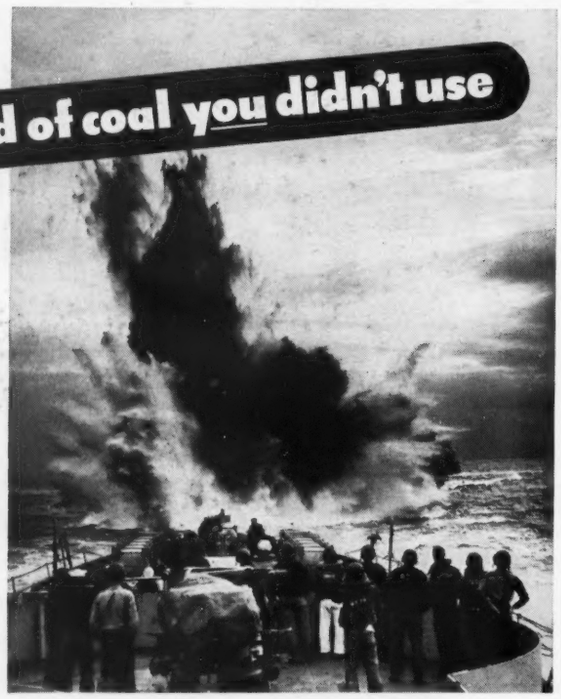
The next town we visited was Cincinnati, a town of about half a million inhabitants which 20 years ago had one of the most corrupt governments in the United States. Then an energetic lawyer succeeded in cleaning it up, and now it has a first-rate government which has been one of the first in America to start planning, and planning well and vigorously. At one time there were two or three messy railway stations there, but the municipality had got the railways together and they had built a single railway station with a magnificent approach more than a quarter of a mile long, beautifully laid out by landscape architects. The station itself is very well planned, quite different from any station which exists in this country. That is the sort of thing that the Americans are good at.

Detroit

The next city we visited was Detroit, where there are the usual skyscrapers, occupying about a square mile in the centre of the town. We went for a walk about 500 yards from the centre of Detroit, and there we saw our first "blighted area." (That is one of the things in which Americans specialise; they do not specialise in slums, but they do have blighted areas, which are fairly recently built parts of the town which have gone downhill.) . . .

(Continued on page 94)

This is a load of coal you didn't use



Action photo taken from deck of Coast Guard ship. Illustrates tremendous force of depth charge explosion.

There's no glamour for you in saving fuel, but there's danger if you don't. In the hands of these fighters on the sea—whose sacrifices far exceed yours—the coal you conserve saves lives and hastens victory.

Fuel helped make that depth-charge in some plant in America, and fuel brought the workmen and supplies together to work. Fuel moved that depth-charge to "embarkation." Fuel loaded it aboard ship and fought across thousands of miles of danger-ridden sea to place that fuel—*your* fuel, in the hands of our fighters.

Fuel feeds and clothes our fighters, moves them to battle, dresses their wounds, carries them toward Victory—and some day—with your whole help, soon—will carry them back to us to live with us in the fields of Peace.

Don't let apathy stop you—*do* something about fuel saving.

Fuel-Saving Starts With CONTROL

An explanation of the Control exercised by Dunham Differential Steam Heating is contained in our Bulletin 614A. May we send it? Address The C. A. Dunham Co., 450 E. Ohio Street, Chicago 11, Ill., Toronto, Canada. London, England.

★

This Advertisement Dedicated By

DUNHAM

SYSTEMS OF STEAM HEATING

to a better understanding of the urgency of conservation in fuel use

DUNHAM MAKES FUELS GO FURTHER

✱ BETTER WIRING FOR BETTER LIVING ✱

To help you plan ahead for 194X

WHEREVER groups interested in housing get together these days, they discuss the many problems confronting them regarding postwar construction. Because of the inevitability of increased use of electrical appliances and equipment, they recognize that a radically new approach must be taken in planning *electrically* for new homes as well as for the modernization of present homes.

Questions which are raised in planning this important phase of construction are:

What electrical appliances and equipment will be available for homes? Will there be radical changes in prewar models? What will innovations be like?

How should this equipment be arranged in the kitchen, laundry, utility room, living room, bedrooms, and bath—for greatest efficiency?

How about access for servicing? Utility connections? Lighting outlets and controls?

• • •

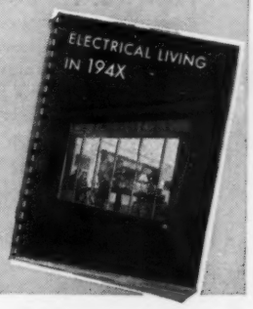
The Westinghouse Better Homes Department is prepared to give you information on these and any other questions relating to the electrical phase of home planning. This Department welcomes the opportunity of giving authentic technical advice on the *proper* selection and planning of home electrical appliances and equipment.

Write: Better Homes Department, Westinghouse Electric & Manufacturing Company, Pittsburgh 30, Pennsylvania.

NEW FREE BOOK!

We are preparing a *new and unusual* book which will help you explain to prospective home owners the vital importance of "better wiring for better living" in 194X homes.

Watch for special announcement and free offer of this big 64-page book in the April issue of this Magazine!



Tune in John Charles Thomas, NBC, Sundays, 2:30 p.m., E.W.T.

Westinghouse

Plants in 25 Cities Offices Everywhere

Views

(Continued from page 92)

This problem of "blight" is one about which the American cities are very worried, and they do not quite know what to do. . . . We have it here to some extent, but it is comparatively unimportant compared with the problem of the real old-fashioned slum areas.

There is now in Detroit a Planning Commission. They do not hand these things over to the local authority; they do not hand anything much to the local authorities there, because the Federal Government and a good many other people do not trust them. They were at one time far and away the worst part of American democracy, but they are now improving. On one occasion we asked a member of a Planning Commission what sort of local authority they had, and he replied: *"Pretty good; the former mayor and chief of police are both in prison."* They have "bosses" who get hold of the city government, and the judges are simply their creatures, so that the only way to get them in prison is through the Federal police, who get at them for Federal offences—often for evading income tax. The Federal police have done a good deal in that way.

Beautiful...

yes, and efficient too!

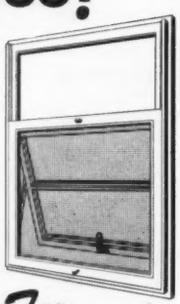
Post-War Window Areas will no doubt be larger, as current trends continue. While generous fenestration opens exciting design possibilities . . . WINDOW EFFICIENCY will have to be examined more critically than ever before.

When stock-size Pella Casement Units are available again, compare these three design features with the field for BEAUTY and EFFICIENCY:

WOOD and STEEL both used in Pella Casement frames to combine beauty and strength.

ROLSCREENS, original roller-type inside screens. The ultimate in screen efficiency and convenience. DUAL GLAZING, the single-panel type that mounts on inside of sash. Inconspicuous. Quickly and easily removed for cleaning.

Watch, too, for the new Pella DOUBLE HUNG Windows which make the Pella line of windows COMPLETE for post-war homes and commercial buildings. ROLSCREEN COMPANY, PELLA, IOWA.



For

TODAY'S HOUSING

Investigate Pella Awning-Type Windows available with screens and storm sash. For 2 x 4 frame, thin wall or masonry construction. White pine. Toxic treated. WRITE FOR FREE FULL-SIZE DETAILS. Address Dept. 134

Pella **WINDOWS** CASEMENT ★ "AWNING" PROJECTED WOOD SASH

Made by Makers of Famous Pella ROLSCREENS and Pella VENETIAN BLINDS

Chicago

From Detroit we went to Chicago.

Chicago has a magnificent line of sky scrapers facing the lake, and a university right in the city. Universities in America usually have up to 500 acres of campus with very fine buildings and at Chicago the university, though right in the city, occupies a space about a mile long and 300 yards wide. The Americans have a passion for education and pour out money for it, as can be seen by the superb buildings which they put up both for universities and for schools.

The most impressive single thing in Chicago is the Lakeside Drive, 13 miles long, largely built on ground recovered from the lake, with eight traffic lanes and developed as an express parkway. . . .

They have an amusing gadget on this Chicago parkway which must have cost untold gold. It was invented by the city engineer. It takes the form of a movable kerb. In the morning, when most of the traffic is going into Chicago, the kerb is placed so as to provide six lanes of traffic for the inward cars; for the middle of the day it provides four lanes each way, and in the evening six outgoing lanes.

Kansas City

Next I went to Kansas City, beyond the Middle West. Here there had been a man called Pendergast, who was one of the most famous "bosses" in the whole of American history. From 1930 to 1940 he was the king of Kansas, and he built a really fine civic centre with a twenty-nine storey town hall and an auditorium to seat 12,000 people, with the most attractive lighting I have ever seen.

Kansas got rid of Pendergast in the end, and he went to prison; but before that he had spent a great deal of money and given a lot of work to architects and others in putting up these beautiful buildings. These men are very powerful when they are in power, and perhaps 10 per cent. of the money they spend goes to themselves and their friends, so that the more buildings they put up the richer they are. Then they go to prison and the reformers come in and clean up the city and stop all building, and after four years or so everybody is fed up with them, and then back come the old gang to spend all the money which the reformers have collected.

San Francisco

When you get to the Far West you do begin to find gardens. San Francisco is a crowded town built on a promontory with two superb bridges, the Golden Gate bridge, with a span of over 4,000 ft., and another about eight miles long, connecting the city with the mainland.

It has lovely suburbs on the mainland, and the great problem of this crowded central area, now that these two bridges have been built, is how to get the "commuter" to pay his share of the taxes.

They had an earthquake in San Francisco in 1906, followed by a tremendous fire. They had a beautiful plan for the

(Continued on page 96)

WINNER

Techno-TONE

THE HOUSE OF **A. W. FABER'S** ALL AMERICAN DRAWING PENCIL FOLLOWS PROUDLY in the tradition of

"CASTELL"

THE FINEST DRAWING PENCIL EVER PRODUCED

THE HOUSE OF A.W. FABER "CASTELL" STANDARD OF THE WORLD

ANYWHERE IN THE WORLD

BLACK MAGIC because—like a rare liqueur—it is a perfect *blend* of pure graphite, clay and wax. Refined to produce smooth, intensely opaque impressions, without grit, glare or smudge, constantly uniform in grade in each of its 17 degrees —6B to 9H. Truly a drawing pencil to inspire technicians. Truly worthy of the "CASTELL" family tradition. Send for your *free sample* today.

FREE SAMPLE

Order WINNER Techno-TONE from your Dealer today. Or, if you prefer to try one with our compliments, we will gladly send you a free sample. Be sure to specify your favorite degree. Write to Dept. PP-3

NAME_____

ADDRESS_____

CITY_____

WINNER

Techno-TONE DRAWING PENCILS

13c each 2 for 25c $1.25 doz.

AT DRAWING, ARTIST MATERIAL DEALERS, BLUEPRINTERS, AND LEADING STATIONERS

AW. FABER INC. NEWARK, N. J.

Views

(Continued from page 94)

city, just like the Wren plan for London, already prepared, but after the earthquake and the fire they said they had not time to follow the plan, and so they rebuilt tne city with the old squares just as they were before. It illustrates the incredible rigidity of this gridiron plan which is followed in America. San Francisco is hilly, but even in crowded parts of the town there are gradients of 1 in 10 which are very dangerous. One thing that they did do when they rebuilt the town was to provide for a civic centre. Almost every city in America now has something impressive in the way of a civic centre.

Los Angeles

Los Angeles provides a great contrast with San Francisco, because it is the only really big town—it has grown from 100,000 in 1900 to 2,000,000 to-day—which has been planned on the assumption that every family owns a private motor car. An architect whom I met there who had built many middle-class houses told me that they would not think of providing garage-space for less than two cars per house, and usually there is need for three. The city occupies 450 square miles and is a fantastic shape, reaching out a tentacle 20 miles in length to the harbour on the Pacific.

Los Angeles is now being planned with a great deal of vigour . . . Although the Americans have always been very rugged individualists and not planminded, it is striking how far they have gone; we have nothing even distantly resembling it in this country.

From Los Angeles we went to New Orleans.

T. V. A.

We then went to see the work of the Tennessee Valley Authority, which was the most interesting of all the things that we saw. The area is about the size of England, with the Tennessee river, 600 miles long, flowing through it. President Roosevelt has set up an organisation to build some twenty dams along the river, first of all to control the floods, which used to do enormous damage, secondly, to make the river navigable, and thirdly, to provide about 1,500,000 kilowatts. This has been done, and about 300,000 kilowatts were provided for the manufacture of aluminum at the beginning of the war. It is a very impressive piece of long-range democratic planning, and it is making a big difference to the life of the whole area. The dams and all the buildings are beautifully planned and built, and the T.V.A. have done it entirely with their own staff of engineers and architects, who have worked together with astonishing success. It is one of the most attractive examples of co-operation between engineers and architects for a terrific piece of public work, that I have ever seen.

New York

Then we came back to New York. New York has an Italian mayor, who has been in office for ten years, a magnificent orator with enormous vigour. He has built up one of the very best municipal governments in the world, which is quite first-rate in all sorts of ways.

The skyscraper problem exists in its most acute form in New York, and at the southern end of Manhattan there are so many skyscrapers that the traffic problem is insoluble. Further down there are isolated skyscrapers like the Rockefeller Buildings which are very convenient—as long as the liftmen do not go on strike!

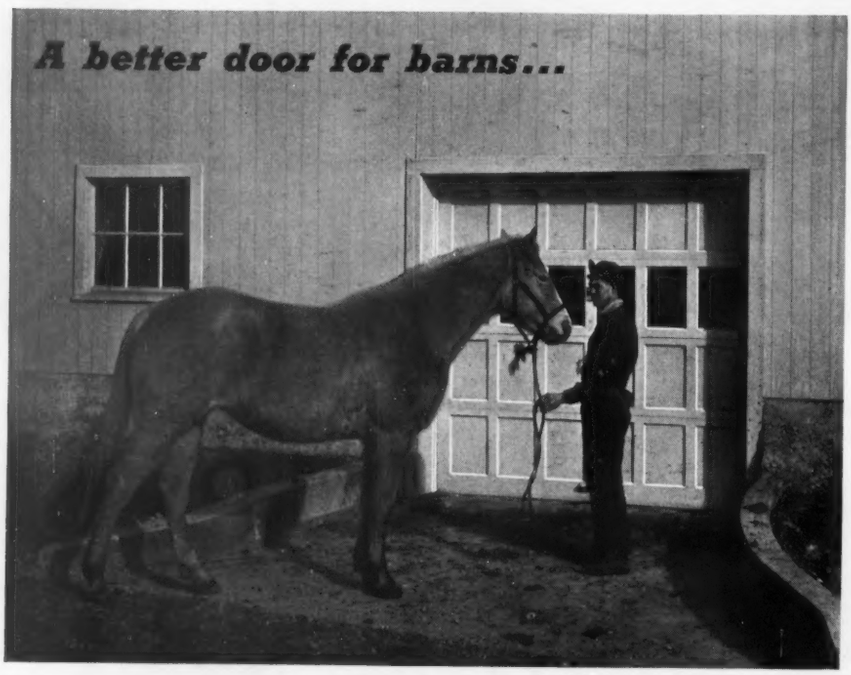
To my mind, the most astonishing and impressive thing in New York is the system of express highways and parkways which has been built. There is an express parkway 35 miles long right round Long Island, complete with beautiful bridges and parks all round. They have made 400 children's playing fields in New York in the last four years . . . The contrast between the access to New York and the access to London is very startling.

In Favor of Mr. Hamlin and Realism

Dear Editor:

I have just read Mr. Hamlin's "Architecture of the Future: Part IV" in your January issue. I must say that he has analyzed a number of vital subjects therein in a convincing manner. Archi-

(Continued on page 98)



The Barcol OVERDOOR

has what the farmer wants

He wants a door that will operate easily, that will close tightly to keep out drafts, and that he doesn't have to be fixing all the time. The Barcol OVERdoor will give him an easy-handling, out-of-the-way, tight-closing overhead door with many years of dependable service and minimum maintenance.

FOR REMODELING or NEW CONSTRUCTION

The stock entrance door shown above is a new door on an old barn on a successful dairy farm, and the owner is mighty well pleased with it. Maybe you never thought of putting a "garage door" on a barn, but it works! What's good for protecting cars is even better for cattle. Try it the next time you have a chance!

BARCOL

FACTORY-TRAINED SALES and SERVICE REPRESENTATIVES IN PRINCIPAL CITIES

BARBER-COLMAN COMPANY

100 MILL ST. • ROCKFORD, ILL.

NO LONGER SPECULATIVE!

The adaptability of Formica laminated plastics to architectural surfaces which must stand severe use and yet continue to look good is in no sense a new or untried proposition.

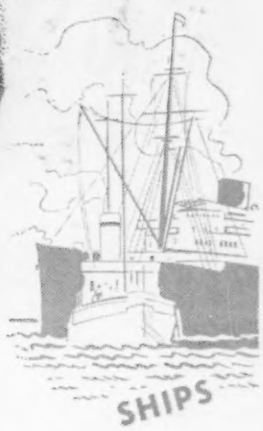
Since 1927 some of the leading architects and interior decorators have been using the material in some of the nation's finest structures. This use of the material was worked out by Formica, which also did the necessary engineering to develop practical methods of installing the material.

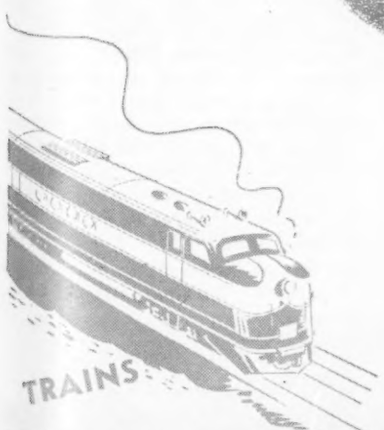
Formica has been used in public buildings like the National Airport and the Annex to the Congressional Library, in the finest streamlined trains, in hotels like the Washington Statler, in ships like the Queen Mary, in restaurants from coast-to-coast, in theaters.

It has had ample opportunity to demonstrate its long life and permanent good looks—and the result usually has been jobs of remarkable attractiveness that stand up indefinitely to tough conditions.

Formica has the necessary detailed information from which specifications can be written. Ask for it.

"The Formica Story" is a moving picture in color showing the qualities of Formica, how it is made, how it is used. It is available for meetings of architects and designers.





THE FORMICA INSULATION CO.
4621 Spring Grove Ave. Cincinnati 32, Ohio

ARMY E NAVY

FORMICA

Views

(Continued from page 96)

tects should be realistic but they should not let themselves be carried away by a lot of superficial nonsense. The day will come when the fundamental truths will again be recognized. For the time being they are, of course, buried under a lot of muck.

MARVIN EICKENROHT, A.I.A.
San Antonio, Texas

Concerning Aspirations, Postwar Plans, and a Criticism

Dear Editor:

Although I am only in the seventh grade and eleven years old, I am very interested in interior decorating and architecture. I am seriously considering being an architect, although I would also like to be a surgeon and find it rather hard to choose between them.

It happened that just as I received your letter this afternoon, I was designing the floor plans of the house that my mother and father want to build after the war.

I like your magazine very much and find it very helpful, although I think that in the floor plan on page 62 of last October's edition, the bathroom next to the maid's room should have a window. This factor may seem awfully small, but it could make a big difference in the living conditions of the home.

HOWARD HERSHBERGER
High Point, N. C.

We can understand Mr. Hershberger's difficulties. Choosing a profession is by no means an easy matter; and we were at fault in not catching a draftsman's mistake in the plan referred to. Not even the architect of the house in question, it would seem, has as sharp eyes as our correspondent, for he has not questioned our rendering of his plan.

EDITORS

Engineering the *smokeless* fireplace in small, tight buildings creates a problem. As you know, with an *ordinary* fireplace, the air exhausted by chimney draft usually *exceeds* the amount of air coming in through cracks and crannies. Result: partial vacuum, downdraft, SMOKE! Bennett solves this problem, with the FRESH AIR Fireplace Unit.

To replace the vacuum, fresh outdoor air enters the room through the heating chambers of the fireplace which have ample heating capacity regardless of outdoor temperatures. These units provide all elements of the internal construction . . . throat and damper, down-draft shelf, combustion chamber, etc. . . . each properly positioned and proportioned.

Product of 20 years of specialized experience, they are pre-engineered to make smokeless operation *doubly certain.* That's why they *can* be guaranteed not to smoke.

Production of Bennett fireplace units, Flexscreens, and construction supplies will be resumed when permitted. For description of all Bennett products, see 8-page catalog in Sweet's Architectural File. The Bennett Company, Fireplace Division, Norwich, N.Y.

BENNETT
Guaranteed
FIREPLACES

Positions Wanted

Recent college graduate of A1 architectural school desires position with an architectural firm. Has had experience as a draftsman. Reply c/o Editor, PENCIL POINTS, Box No. 11.

Data Wanted

JAMES H. CONWAY, 2113 First National Bank Building, Pittsburgh, Pa. (Data, catalogs, samples for A. I. A. file.)

Change of Address

LESTER C. TICHY, Architect, offices for the practice of architecture and industrial design, from 580 Fifth Avenue to 369 Lexington Ave., New York 17, N. Y.

Architects at War

Since the publication of the list of architectural men in uniform (December, 1943), additions and corrections have kept coming in. The following information brings us up to date as of this writing. A list of additions and corrections was also published in the Views *pages of the February issue.*

Abbreviation USA indicates United States Army; USN — U. S. Navy; USCG—U. S. Coast Guard; USMC—U. S. Marine Corps; USMM—U. S. Merchant Marine; USNR—U. S. Naval Reserve; USAR—U. S. Army Reserve; USCGR—U. S. Coast Guard Reserve; USMCR—U. S. Marine Corps Reserve; USAAC — U. S. Army Air Corps; USASC—U. S. Army Specialist Corps; C. E.—Corps of Engineers; j. g.—junior grade; s. g.—senior grade. RCAF—Royal Canadian Air Force. (Some of the names lack data on rank or branch of service. We are printing what was sent to us.)

Colorado

JOHN GRAY, Flight Officer (RCAF)
GEORGE EMERY, Lt. Com. (USN)
EDWIN FRANCIS, Capt. (USA), (C.E.)
EDWARD HUBBELL, Capt. (USA), (C.E.)

(Continued on page 102)

LOADING from plant floor to freight car —Eliminates both loading dock and ramp.

Directly FROM PLANT FLOOR INTO TRUCKS. Side wainscot and Skirt Guard provide maximum safety.

An Elevating Subject for Post-War Planners

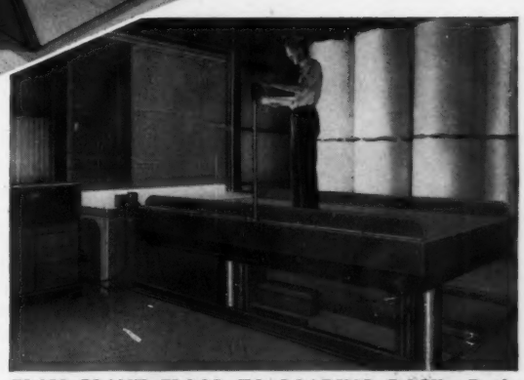
NEW BOOK GIVES THE ANSWERS

Just off the press and marked for your A.I.A. File 33-Y is one of the most complete and fact-filled booklets of its kind ever presented to the architect on hydraulic lifts . . . Rotary's Levelator Manual. Its compact, easily read sections show actual installations, as well as give pertinent technical data and layout information. It offers the help you need in gaining three of your principal post-war objectives in planning industrial buildings:

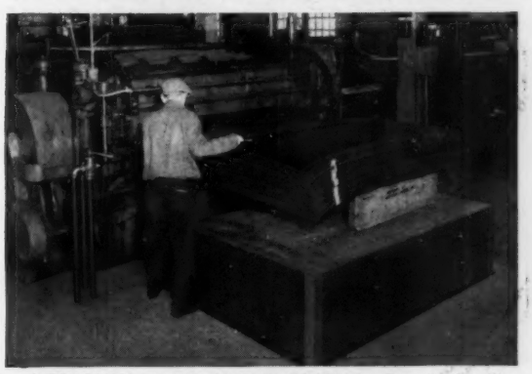
1. **Conserving vital plant space for increased usability.**
2. **Eliminating unnecessary construction costs.**
3. **Streamlining buildings for greater efficiency.**

Rotary Levelators are extremely simple and highly practical oil-hydraulic lifting devices. Heaviest loads are PUSHED up as oil is pumped under pressure into a powerful jack by an electric pumping mechanism (or by compressed air when available). Installation is simple and inexpensive. Get your free copy of Rotary's New Levelator Manual for the answers to many of your most perplexing problems. Write today!

Rotary
MEMPHIS
LEVELATORS
FREIGHT ELEVATORS



FROM PLANT FLOOR TO LOADING DOCK. Dual plungers, mechanically equalized, are used on this long car.



A MACHINE FEEDING LEVELATOR. Permits handling higher stacks — keeps work on level with machine bed.

Send for your free copy

Rotary Lift Company,
1011 Kentucky St.,
Memphis, 2, Tenn.

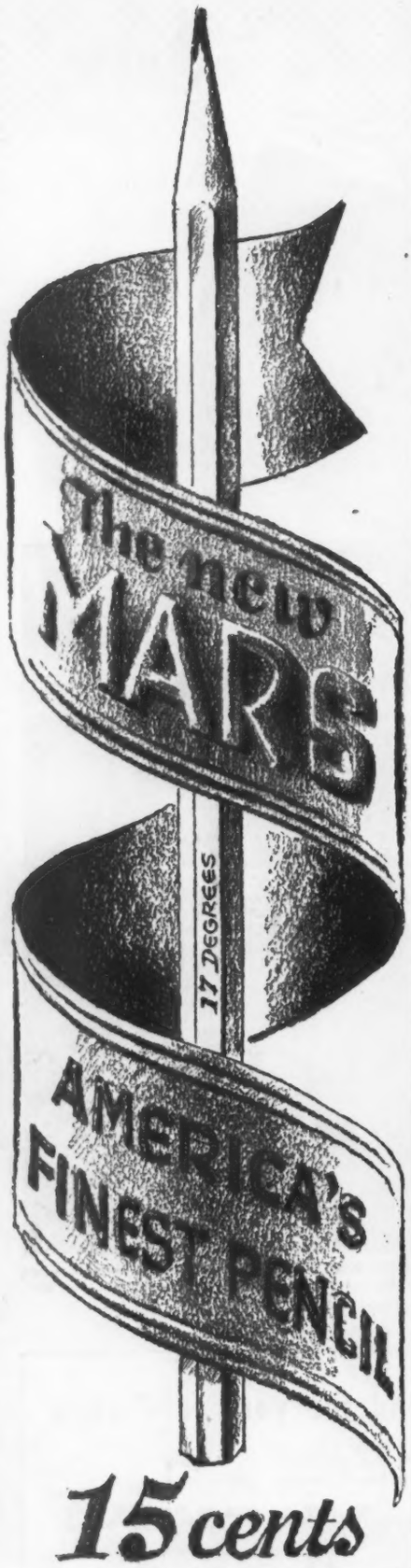
Please send my copy of the NEW Rotary Levelator Manual suggesting post-war applications.

NAME_____

FIRM_____

ADDRESS_____

CITY_____ STATE_____



15 cents

"DEMAND THE BEST!"

J. S. STAEDTLER, INC.
53-55 WORTH STREET
NEW YORK, N.Y.

Views

(Continued from page 98)

JAMES HUNTER, Chief Petty Officer (USN) (Seabees)
G. CHARLES JAKA, Maj. (USA), (C.E.)
CASPER HEGNER, Capt. (USMCR)
THOMAS MOORE, Lt. (USAAC)
EARL DEITS, Lt. (USA), (C.E.)
QUINTIN FULLER, Lt. (j.g.) (USNR), (C.E.C.)
AUBREY BRELSFORD, C.M. (USN) (Seabees)
VICTOR HORNBIEN, Sgt. (USA), (C.E.)
LARRY KLATT, C.M. (USN)
LEO WOLGAMOOD, Ens. (USN)
FOSTER PARRIOTT, Lt. (USA)
JOHN LONERGAN, Lt. (USA)
JACK OLSON, C.M. (USN)
EDWARD MELLIKER, Capt. (USA)

Illinois

WILLIAM N. ALDERMAN, Capt. (USA)
JERRY J. CERNY, Lt. Col. (USA)
ALBERT J. DELONG, Lt. (USNR)
W. GORDON GARRETSON, Lt. (USA)
PHILIP HALLOCK, Ens. (USNR)
CARL E. HEIMBRODT, Lt. Col. (USA)
CARTER EDMOND HEWITT, Lt. (USA)
WILLIAM F. MCCAUGHEY, Capt. (USA)
HENRY L. NEWHOUSE, Lt. (USNR)
EDWARD A. NITSCHE, Maj. (USA)
ALFRED F. SCHIMEK, (USA)
D. CODER TAYLOR, Lt. (j.g.) (USNR)
WILLIAM CAMPBELL WRIGHT, Brig. General (USA)

Pennsylvania

FRANK P. PATTERSON, JR., was erroneously listed as a Lieutenant Commander in the Navy. In the January issue of The Charette, put out by the Pittsburgh Architectural Club, Editor Frank Patterson writes that PENCIL POINTS probably confused him with Lt. Com. Rody Patterson.

Texas

T. ROY AINSWORTH, Lt.
GEORGE W. ALEXANDER
BURTON L. AUSTIN, Maj. (USA)
JOHN W. BARETTA, Lt. Col. (USA)
PHILIP D. BARNARD, Lt. (j.g.) (USNR)
MILTON J. BATOT, Capt. (USA)
ROBERT J. BEASLEY, JR., Lt.
H. E. BELSHER, Maj.
H. H. BLAIR, Capt. (USA)
R. M. BROOKS, Lt. (j.g.) (USNR)
RALPH BRYAN, Lt. Com. (USNR), (CEC)
RALPH MELDRIM BUFFINGTON, Capt.
MACYL A. BURKE, Maj. (USA), (C.E.)
STANFORD A. BUSBY, Capt. (USA)
RUSSELL HARDY BUSE, Pfc. (USAAC)
HAROLD CALHOUN, Lt. (j.g.) (USN)
RALPH H. CAMERON, Col. (USA)
ROBROY C. CARROLL, Capt.
GILBERT B. CARTER, Lt. (j.g.) (USNR)

(To be continued in April)

IF YOU ARE A USER OF DRAFTING PENS . . . LET US SEND YOU AN
Esterbrook DRAWING PEN
FREE
PRECISE TO .0001"

For *your* sample of this ideal working tool, simply send us the make, name and number of your favorite pen—and we will send you at once the corresponding pen in the Esterbrook Drafting Series.

Let us serve you by return mail.

THE ESTERBROOK PEN COMPANY
CAMDEN, N. J.
The World's Leading Pen Makers Since 1858